

Modern

LITHOGRAPHY

.....

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In this issue

Balanced Offset Inks
Know Your Costs
Masking Series: No. 3
Story of Peck
Business Is People
TAGA Meets in L.A.

JULY, 1958



PRIMER PRIMER PRIMER PRIMER PRIMER PRIMER PRIMER PRIMER

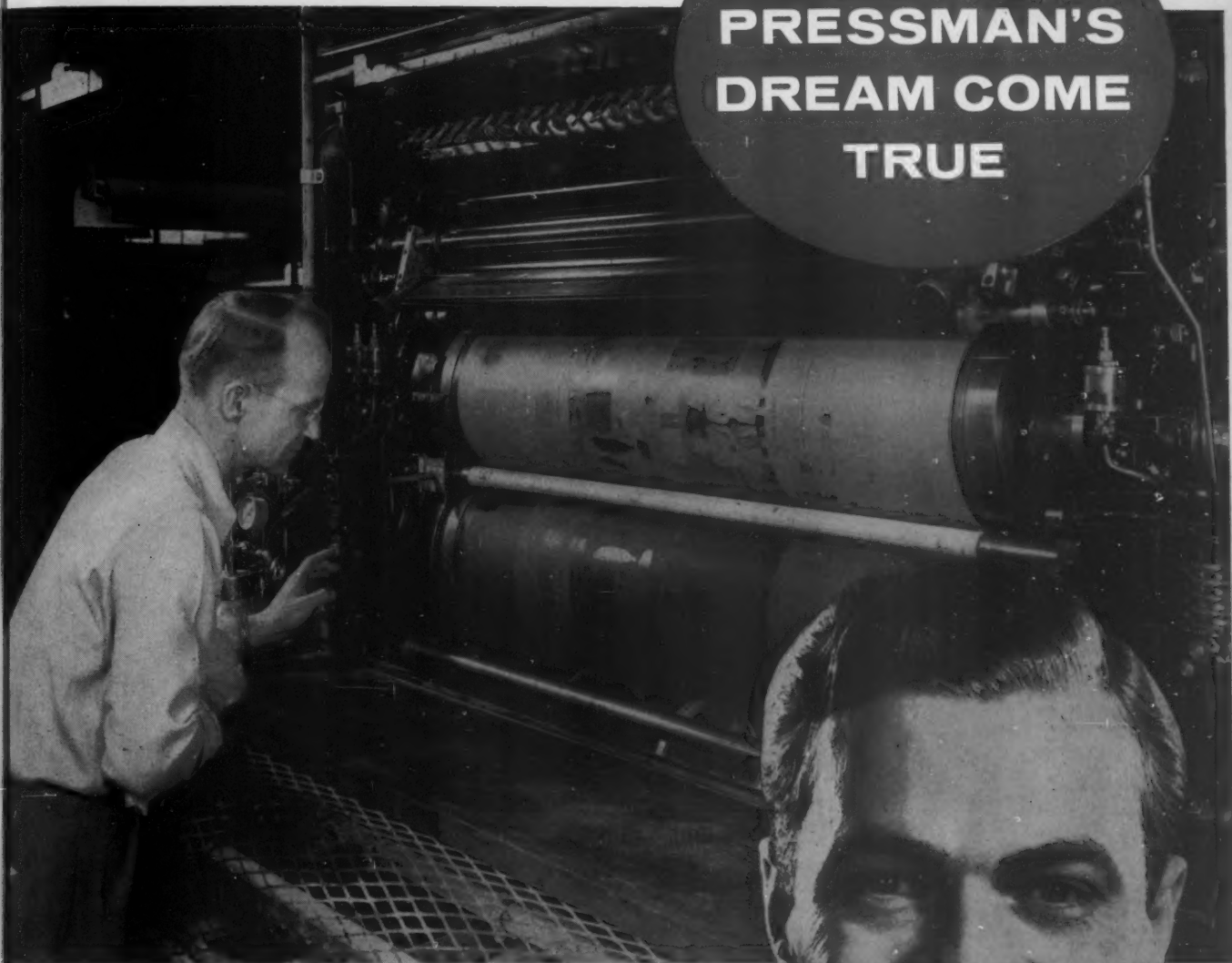
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PRESSMAN'S
DREAM COME
TRUE



One blanket for all jobs... for all inks...
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***TRU-DOT** Blanket... new in color... new in*
performance... new in the advantages it brings you.

Pressmen everywhere say: "It's the pressman's blanket—the all-around blanket that's good for any job with any ink!"

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JUST ARRIVED...the new, whiter, brighter, Penn/Brite Offset

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Convince yourself. Write for a swatch book and samples today.
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Cover

"Why People Pick Peck" was the provocative title of a clever mailing piece by W. T. Peck and Co. And it's the title we've used to tell the interesting story of this Philadelphia offset shop. Interesting—and useful—promotional pieces are a big reason for Peck's success. See page 24.

WAYNE E. DORLAND
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MODERN LITHOGRAPHY, July, 1958

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MODERN LITHOGRAPHY

VOLUME 26, NUMBER 7

JULY, 1958

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... a COMPLETELY NEW and DIFFERENT
approach to the science of plate making

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- WESTERN LITHO PLATE & SUPPLY COMPANY, 1927 South 3rd Street, St. Louis 4, Missouri
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and Nekoosa, Wisconsin
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You get better results with Du Pont film



**"Du Pont CRONAR* Ortho A
is increasing our production 30%—at less cost per job"**

—Aaron Rubin, Superintendent, Shorewood Press, Inc., New York City, New York

Founded ten years ago with only two workers, Shorewood Press now employs 84 persons. It is a completely equipped shop, turning out large numbers of negatives, positives and plates. Du Pont CRONAR Ortho A litho film has been used here on process color work almost exclusively for the past two years.

Superintendent Rubin says, "Because CRONAR Ortho A handles easily and dries so fast, our operators can proceed more quickly and efficiently. We finish jobs 30% faster than previously. An average assignment calling for a run of 5,000 can be completed in five days. When we used acetate-based materials, this

same job would take about seven days. In other words, where we could once handle only three jobs, we can now turn out four—obviously reducing our cost on each lot. And CRONAR Ortho A now costs no more than acetate-based litho film.

"CRONAR Ortho A keeps its size throughout our various stages of processing. This guarantees in-register reproduction every time."

If you're looking for a way to turn out better work faster . . . CRONAR Ortho A is the answer. For more information on CRONAR Graphic Arts films, write to: E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington 98, Delaware. In Canada: Du Pont Company of Canada (1956) Limited, Toronto.

**Du Pont's trademark for its polyester graphic arts films.*



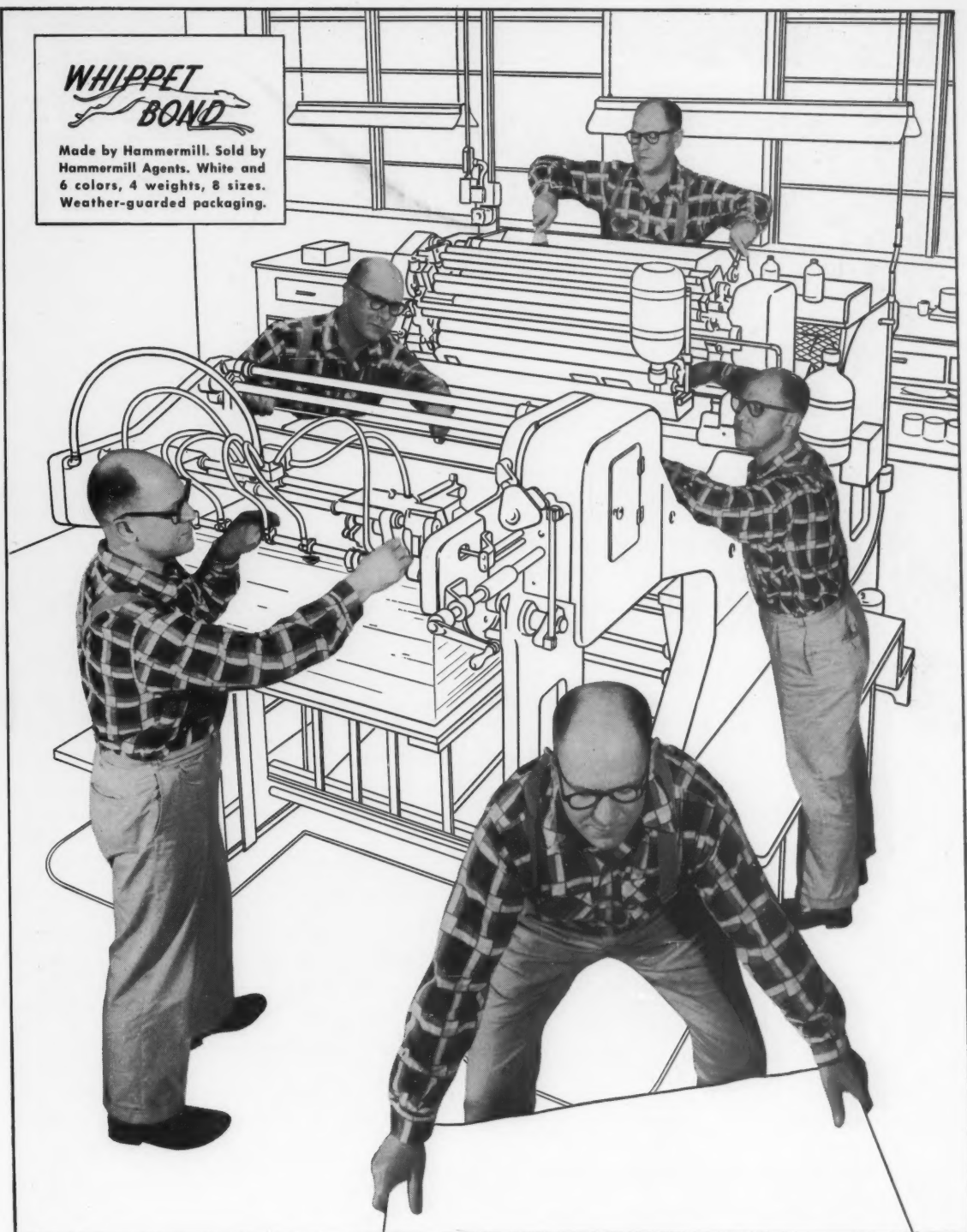
Better Things for Better Living . . . through Chemistry

This advertisement was prepared exclusively by Phototypography.

MODERN LITHOGRAPHY, July, 1958

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BOND**

Made by Hammermill. Sold by
Hammermill Agents. White and
6 colors, 4 weights, 8 sizes.
Weather-guarded packaging.



*You don't have to be five places at once when
you run uniform Whippet Bond on your press*

FOR MORE ATTRACTIVE PRINTING, THE NEW BLUE-WHITE

SPECTRUM

Crescent's Latest Litho Ink Service

Are you interested in having absolute control of all phases of your ink requirements? Color match? Characteristics? Quality? Quantity? Scheduling? Inventory?

Then you should be using Crescent's Spectrum Ink Service for lithographers. Crescent's Spectrum Service gives your pressroom custom service while it gives the front office the benefit of mass economies.

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Interested? Send the coupon for full details — without obligation, of course.

Look to Crescent
For Ink Leadership

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Company
Street City State

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244 Forsyth St., S.W., Atlanta, Ga.
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Litho Schools

Canada—Ryerson Institute of Technology,
School of Graphic Arts, 50 Gould St.,
Toronto, Ont., Canada.

Chicago—Chicago Lithographic Institute, 1611
W. Adams St., Chicago 12, Ill.

Cincinnati—Ohio Mechanics Institute, Cincinnati, Ohio.

Cleveland—Cleveland Lithographic Institute,
Inc., 1120 Chester Ave., Cleveland 14, Ohio.

Los Angeles—Los Angeles Trade Technical
Junior College, 1646 S. Olive St., Los Angeles 15, Calif.

Minneapolis—Dunwoody Industrial Institute,
818 Wayzata Blvd., Minneapolis 3, Minn.

Nashville—Southern School of Printing, 1514
South St., Nashville, Tenn.

New York—New York Trade School. Litho-
graphic Department, 312 East 67 St., New York, N. Y.

Manhattan School of Printing, 72 Warren
St., New York, N. Y.

Oklahoma—Oklahoma A & M Technical School.
Graphic Arts Dept., Okmulgee, Okla.

Rochester—Rochester Institute of Technology
Dept. of Publishing & Printing, 65 Plymouth
Ave., South Rochester 8, N. Y.

Philadelphia — Murrell Dobbins Vocational
School. 22nd and Lehigh, Philadelphia, Pa.

Pittsburgh—Carnegie Institute of Technology.
School of Printing Management, Pittsburgh.

San Francisco—City College of San Francisco.
Ocean and Phelan Aves., Graphic Arts Department.

St. Louis—David Ranken, Jr., School of Mechanical Trades, 4431 Finney St., St. Louis 8, Mo.

Vancouver—Clark College.

West Virginia—W. Va. Institute of Technology.
Montgomery, W. Va.

Trade Directory

Lithographic Tech. Foundation
Wade E. Griswold, Exec. Dir.
131 East 39th St., New York 16, N. Y.

National Assn. of Photo-Lithographers
Walter E. Soderstrom, Exec. V.P.
317 West 45th St., New York 36, N. Y.

Lithographers National Association
Oscar Whitehouse, Exec. Dir.
1025 Connecticut Ave., N.W.
Washington, D. C.

National Assn. of Litho Clubs
Frederick Shultz, Sect.
Buckbee Mears Co.
Toni Building
St. Paul 1, Minn.

Printing Industry of America
Bernard J. Taymans, Mgr.
5728 Connecticut Ave., N.W., Washington, D.C.

Internatl. Assn. Pig. House Craftsmen
P. E. Oldt, Exec. Sec'y.
307 E. Fourth St., Cincinnati 2.



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Your Franchised EASTERN Merchant will send you, on request, a free packet sampling Clean White and six eye-appealing colors.

EASTERN



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ATLANTIC BOND • ATLANTIC OPAQUE • ATLANTIC OFFSET • ATLANTIC COVER • ATLANTIC LEDGER

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MILLS AT BANGOR AND LINCOLN, MAINE • SALES OFFICES, NEW YORK, BOSTON, CHICAGO AND ATLANTA



Gives a man room...that's **GEVAERT!**

What is so rare as a film that gives a man elbowroom?...that forgives those all-too-human little errors in exposure and developing? With latitude and other forgiving qualities we build into GEVAERT film, you can just about forget make-overs! Gevaert film is always dependable and uniform...has low halation, low fog in forcing...with stout resistance to abrasion. Produces dense,

hard dots. For *QUALITY* film—with room to spare—buy **GEVAERT!**

LITHOLINE O 82p FILM—maximum contrast, highest sensitivity, latitude and resolving power. Polystyrene base for utmost stability.

O 81 LITHOLINE ORTHO—0.003" thick; thin base for line or screen positives and negatives.

O 82 LITHOLINE ORTHO—in regular

base, same emulsion—0.006" thick.

P 23 FILM—a fast panchromatic emulsion. Long gradation, high resolving power, wide latitude in exposure and development. Ideal for color separation work.

GRAPHIC P 2 PLATE—for making separation negatives from color transparencies or copy. Same photographic characteristics as P 23 film.



THE GEVAERT COMPANY OF AMERICA, INC.

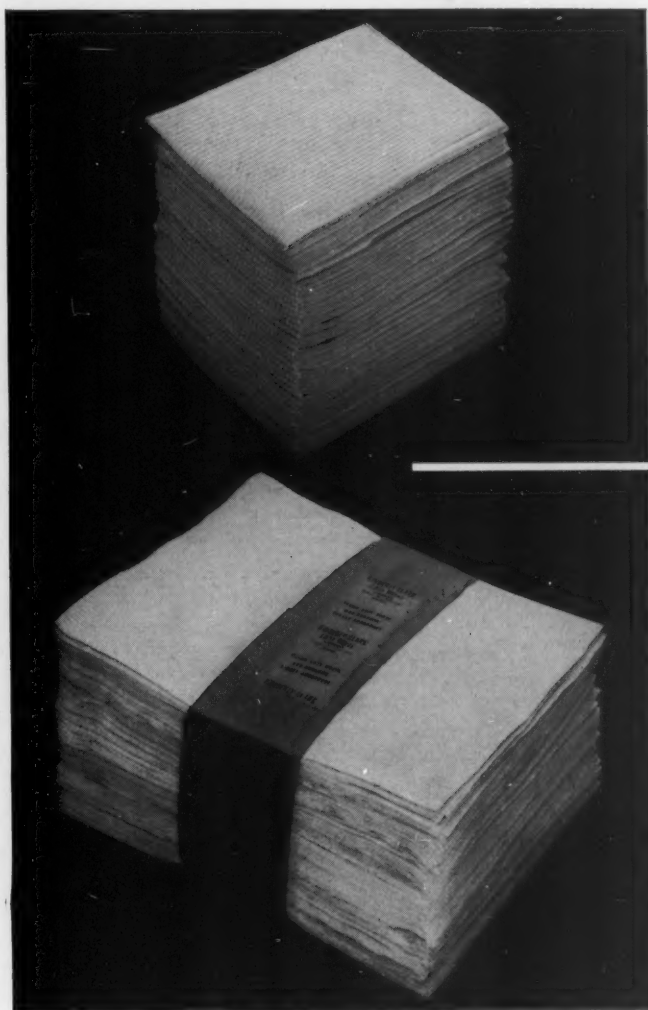
SALES OFFICES AND WAREHOUSES AT

321 West 54th Street, New York 19, N. Y.
6601 N. Lincoln Ave., Lincolnwood, Ill. (Chicago)
6370 Santa Monica Blvd., Los Angeles 38, Calif.
9109 Sovereign Row, Dallas, Texas

In Canada: Gevaert (Canada) Limited
345 Adelaide St., West, Toronto 2-B, Ontario

LITHO WIPES

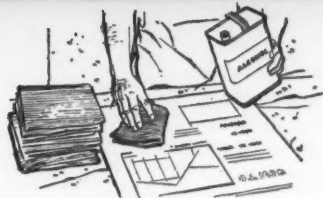
Disposable Plate Processing Towels



now
packaged
TWO
ways

Regular, flat packed Litho Wipes . . . for the platemaker who prefers to use Litho Wipes open or bunched up. Shipments are made in strong, dust-free containers holding 8 convenient, paper-banded bundles of 300 towels each—a total of 2,400 individual towels.

Folded Litho Wipes . . . Prefolded . . . and double thick! "Folded" Litho Wipes arrive in neat, hand-size pads for careful, uniform wiping. A strong, sealed shipping container holds 1,200 quarter-folded towels, two towels per fold (600 doubles).



Look at all these Litho Wipes Advantages

- **Can't scratch!** Litho Wipes are soft, finely creped cellulose—completely free of any abrasives—chemically pure.
- **Absorb alcohol instantly!** And Litho Wipes won't "roll under" or leave lint traces.
- **Economical!** Litho Wipes cost so little—eliminate laundry bills. You'll use a clean, fresh towel every time!

Ask your lithographic supplier about Litho Wipes or write to Kimberly-Clark for free sample and folder.

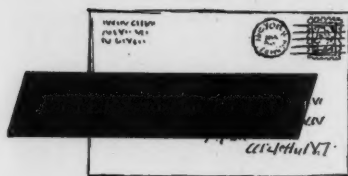
Kimberly Clark

LITHO WIPES



Disposable Plate Processing Towels

Litho Wipes is a trademark of Kimberly-Clark Corporation, Neenah, Wisconsin



Nouel Plate

Dear Sir:

We were very interested at Coates Bros. Inks to read in "Through the Glass" (April) an account of the Nouel plate, and we feel that you will probably be interested in accurate and up-to-date details, particu-

larly as the plate is about to be introduced to the American printers.

The plate is the invention of Monsieur Paul Nouel of Paris. The construction is mild steel, copper and chromium plated. Its success on the continent is phenomenal, over half a million plates having been manufactured. In Britain the plate is manufactured by Coates Bros. and is known as "Nuchrome" and here also considerable success has been achieved on all types of print from bank notes to heavy carton work, from fine screen four-color to web-offset.

Apart from its low price compared with previous bi- and tri-metal plates, its success is due to really simple and certain process-

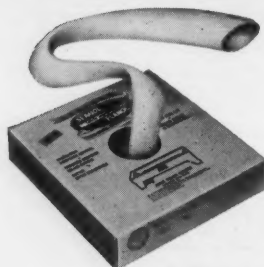
ing in the platemaking department and consistently good press performance—runs of 1½ million impressions are quite normal. The unique chromium surface is the key. It is easy to etch away from the copper, which has no grain so that perfect definition is obtained and yet the matte surface has a "grip" equal to normal grain.

The bi-metal or (tri-metal) plate is really in the picture nowadays in the form of the Nouel plate and we look forward with keen interest to news of its progress in America.

H. Howitt,
Coates Bros. Inks, Ltd.,
London



Seamol® and Flanol® dampener covers



Slip tough, all-wool *Flanol* (undercovering) on your dampener rollers for premium resilience and water retention. Cover it with sturdy, white *Seamol** to insure constant, even distribution of fountain solution. Both are *seamless*, and *stretch-tested* to fit rollers snugly. Write for details and prices to Jomac Inc., Dept. L-1, Philadelphia 38, Pa.

* U.S. Patent

Break dampeners in and keep them clean with a Jomac Roller Cleaner

JOMAC

Likes Publicity

Dear Sir:

I would like to take this opportunity to thank your magazine for the splendid coverage that you gave the Boston Litho Club this past year.

I am also grateful to Sidney J. Paine for his splendid cooperation and coverage at all our meetings.

As far as I'm concerned personally and speaking for the Boston Litho Club, this type of publicity does a great deal toward maintaining the interest of the club's members and also stirring new interest.

James Fraggos,
President,
Boston Litho Club

Looking for Article

Dear Sir:

I am a litho printer who some years ago was in the fortunate position of being able to procure copies of your magazine *MODERN LITHOGRAPHY* and derived considerable benefit from your very excellent technical section.

I am particularly interested to know if
(Continued on Page 111)

Meetings

International Association of Printing House Craftsmen, 39th annual convention, Hotel Statler, Detroit, Aug. 10-13.

National Association of Photo-Lithographers, annual convention, Statler Hotel, Boston, Sept. 10-13.

National Metal Decorators Association, Penn-Sheraton Hotel, Pittsburgh, Oct. 6-8.

Printing Industry of America, 72nd annual convention, Hotel Statler, Dallas, Oct. 13-16.

Lithographers National Association, 54th annual convention, The Greenbrier, White Sulphur Springs, W. Va., April 19-21, 1959.

Southern Graphic Arts Association, 38th annual convention and exhibit, Robert Meyer Hotel, Jacksonville, Fla., April 27-29, 1959.

National Association of Litho Clubs, 14th annual convention, St. Paul, Minn., June 11-13, 1959.

the **BIG REASON** lithographers prefer

LITH-KEM-KO

**DEEP ETCH
CHEMICALS**

LABORATORY CONTROL

Litho Chemical & Supply Company maintains an ever growing laboratory (in fact it has just been moved to a new building with double the former space). This laboratory is charged with two important jobs . . . (1) development of new lithographic chemicals and (2) the constant checking of every batch of chemicals that leaves the Lith-Kem-Ko plant. This latter function is one big reason for the uniformity of Lith-Kem-Ko deep etch chemicals. Every chemical for the process . . . from the sensitizer to the protective asphaltum . . . can be used with ease and assurance. Laboratory control at the Lith-Kem-Ko plant gives you better plate making control in your plant. Start using Lith-Kem-Ko deep etch chemicals today.

**LITHO CHEMICAL
& SUPPLY CO., Inc.**



46 HARRIET PLACE
LYNBROOK, L. I., NEW YORK

3



"choose your weapon!"

Next time an order of paper arrives,
stab it—with a moisture sword.
Test its humidity that way—the sure way.

If it's a West Virginia grade in its
colorful, new outside wraps, you'll find
that the moisture, controlled on the
machine and maintained in the mill
finishing room, has been sealed in.
New improved wrapping on skids and
rolls insures that all the paper
is truly *stabilized*.

Even the labels on these new
wraps are designed for your convenience.
They're placed for best visibility
and ease of identification.

With you in mind, Westvaco packages
its paper better. Saves you money in
handling and on every press run.

Additional direct-to-you benefits:
superb printability in a full
line of coated and uncoated grades
for all printing processes.

Priced right too.

See the man from West Virginia.
Write or call for more information.

Commercial Printing Paper Sales

New York 17 / MU 6-8400

Chicago 1 / FR 2-7620

Philadelphia 7 / LO 8-3680

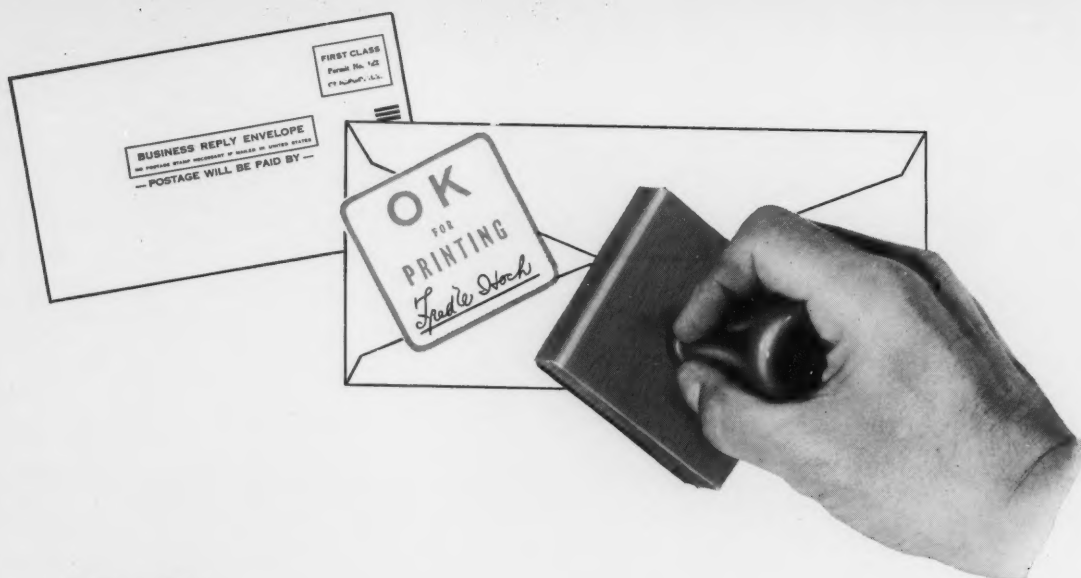
San Francisco 5 / CA 1-5104

Paper Hygroscope by
Cambridge Instrument Co., Inc.



**WEST VIRGINIA
PULP AND PAPER
COMPANY**

230 Park Avenue, New York 17



U.S.E. **V-FLAP**® envelopes have advantages for you — in printing and in profits

Ten years ago, we decided that there must be a better way to make White Wove envelopes. The result is V-FLAP, an envelope superior in every way. It is made directly from a roll of paper at the rate of 15 envelopes *every second*! This is three times normal speed and involves only one-ninth the stock waste usual with conventional die-cut styles. Savings in manufacture enable us to make V-FLAP envelopes of the finest bright-white wove stock, with every top quality feature, *plus* the important "Executive Look": the *pointed* flap and diagonal seams long associated with "top level" correspondence.

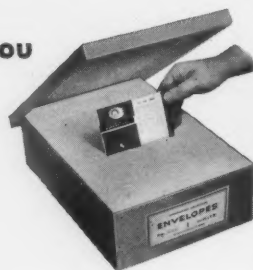
You can offer attractive savings and make a profit with V-FLAP envelopes, because they are easy to print. We know, because we've had the Fred W. Hoch Associates, Inc. test make-ready time and feed-setting time on 16 varieties of printing presses commonly in use in the printing of envelopes. The results of these tests are summarized in the folder offered below.

Remember — every one of your customers is a prospect for Commercial and Official envelopes, and you can get this business *at a profit* — with V-FLAP.

Here are two free booklets. One tells the fascinating story of V-FLAP. The other illustrates the 16 presses and gives the results of the Hoch tests with each. Ask your envelope supplier for free copies or write to Advertising and Sales Promotion Department.

EP-3

U.S.E. helps you



get business, and hold it, too

UNITED STATES ENVELOPE

COMPANY



Springfield 2, Massachusetts
15 Divisions from Coast to Coast

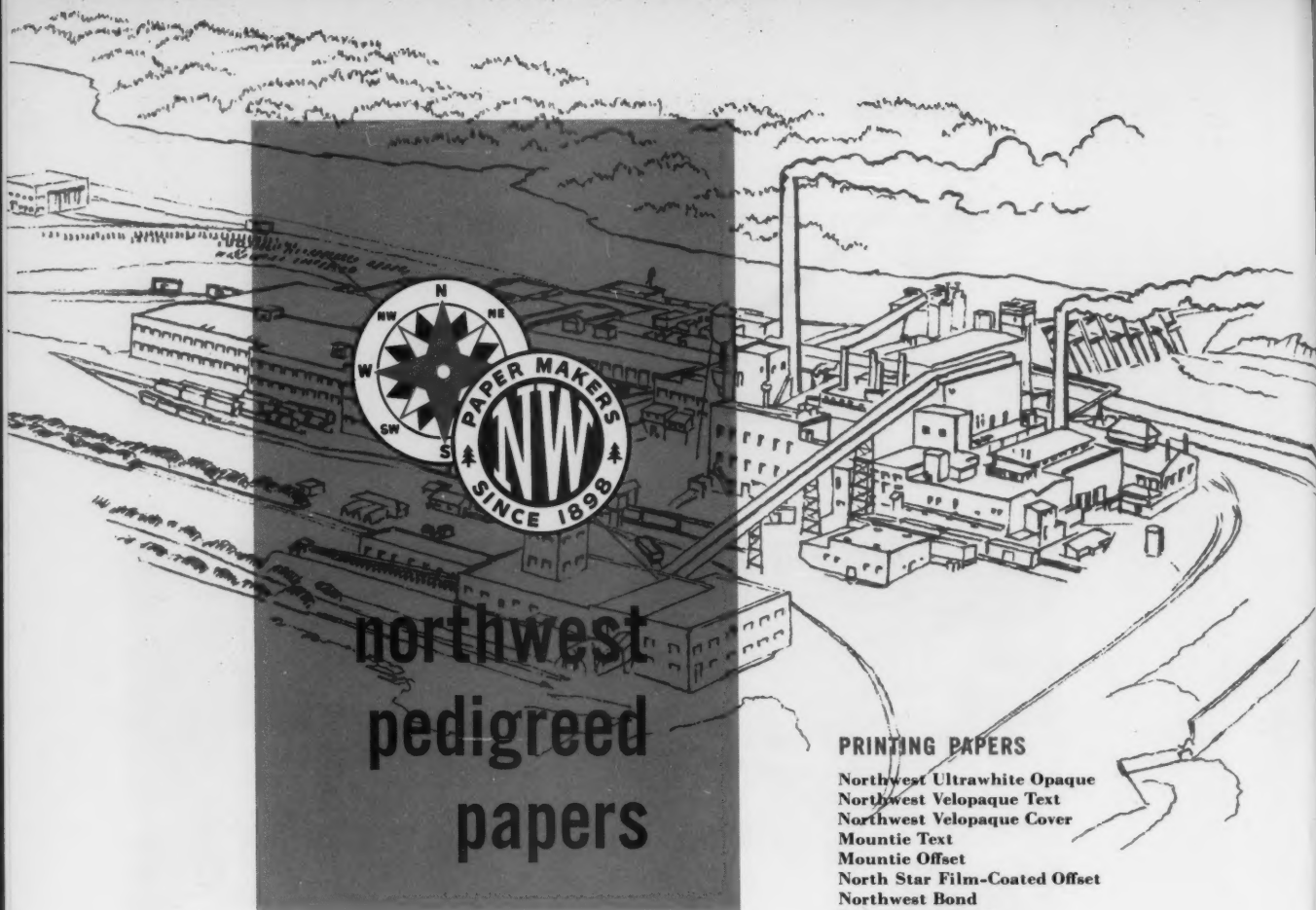


THE NORTHWEST PAPER COMPANY, Cloquet, Minnesota
Mills at Cloquet and Brainerd, Minnesota

northwest pedigreed papers

always make good printing better





PRINTING PAPERS

Northwest Ultrawhite Opaque
 Northwest Velopaque Text
 Northwest Velopaque Cover
 Mountie Text
 Mountie Offset
 North Star Film-Coated Offset
 Northwest Bond
 Northwest Ledger
 Northwest Mimeo Bond
 Northwest Duplicator
 Northwest Index Bristol
 Northwest Post Card
 Mountie E. F. Book
 Mountie Eggshell Book
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 Carlton Duplicator
 North Star Writing
 Non-Fading Poster
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THE NORTHWEST PAPER COMPANY, Cloquet, Minnesota

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 Saint Louis 3, Shell Building
 New York 17, 420 Lexington Avenue

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 Nortex White
 Nortex Buff
 Nortex Gray
 Nortex Ivory
 Carlton

Lithographed upon Regular MOUNTIE OFFSET 25x38—70 Pound



CONVERTING PAPERS

Papeteries
 Drawing
 Adding Machine
 Register
 Lining
 Gumming
 Raw Stock
 Cup Paper
 Tablet



Quality control and critical errors . . .

are closely interrelated. For example, the difference between the finest reproduction work and mediocre work is only a razor's edge of technique.

That's why so many graphic arts people use Ansco Reprolith emulsions in *all* their work. Ansco Reprolith film and Ansco Reprolith thin base both represent the ultimate in dependability and uniformity.

Ansco's Reprodol developer, designed specifically for the most critical techniques is formulated especially for use with Ansco graphic arts sensitized materials.

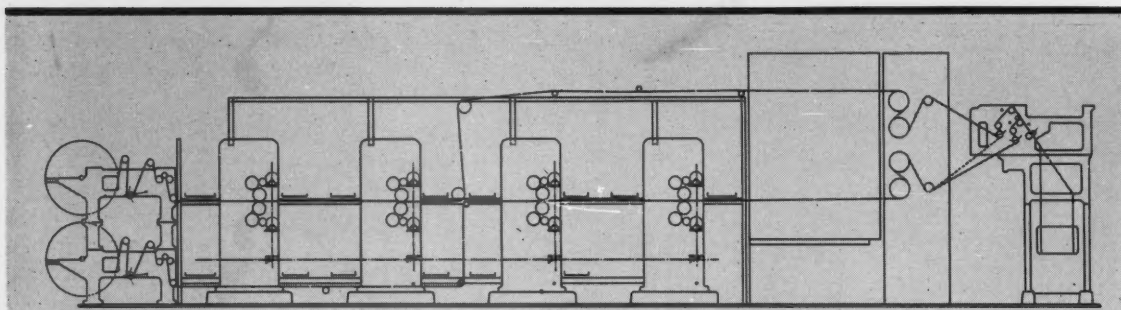
Add Ansco Acid Fixer to this superb twosome for the finest combination available in the Graphic Arts

world. Truly a combination that eliminates critical errors.

Ansco, Binghamton, N. Y. A Division of General Aniline and Film Corp.



With the ATF 22 $\frac{3}{4}$ x 35 Publication Press you can handle all these color combinations and signature sizes



| | | number of webs | colors on each side of web | Number of folded pages | | | |
|---------|--|----------------|----------------------------|--|--|---|--|
| | | | | Newspaper, maximum page size 17 $\frac{1}{2}$ x 22 $\frac{3}{4}$ | Tabloid, 11 $\frac{3}{8}$ x 13 to 17 $\frac{1}{2}$ | Magazine Signature, 6 $\frac{1}{2}$ to 8 $\frac{3}{4}$ x 11 $\frac{3}{8}$ untrimmed | Magazine Signature, 5-11/16 x 17 $\frac{1}{2}$ untrimmed |
| 1 UNIT | | 1 | 1 | 4 | 8 | 16 | 16 |
| | | 1 | 2 | 4 | 8 | 16 | 16 |
| 2 UNITS | | 2 | 1 | 8 | 16 | 32 | 32 |
| | | 1 | 3 | 4 | 8 | 16 | 16 |
| 3 UNITS | | 1 | 1 | 8 | 16 | 32 | 32 |
| | | 1 | 2 | 8 | 16 | 32 | 32 |
| | | 3 | 1 | 12 | 24 | 48* | 48 |
| | | 1 | 4 | 4 | 8 | 16 | 16 |
| 4 UNITS | | 2 | 2 | 8 | 16 | 32 | 32 |
| | | 2 | 1 | 12 | 24 | 48* | 48 |
| | | 1 | 2 | 12 | 24 | 48* | 48 |
| | | 4 | 1 | 16 | 32 | - | - |
| | | 4 | 4 | 16 | 32 | - | - |

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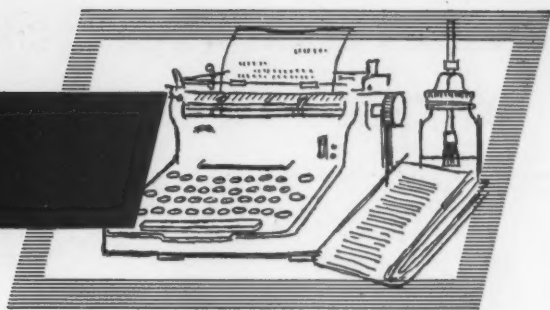
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EDITORIALS



What Goes Up . . .

FOR the first time in union knows how long, lithographic management in the New York area last month signed a contract with Local No. 1, Amalgamated Lithographers of America, which included no provisions for a wage increase for the coming year. As a matter of fact, Local No. 1 made a point of waiving any wage increase this year.

The two-year contract does provide for a \$5 a week raise across the board for May 1, 1959, certain increased health and welfare benefits and a continuation of the cost-of-living provision. (*Complete details may be found in the news section in this issue.*)

Skeptics may quip that the union's seemingly altruistic display in waiving a raise this year carries little significance because the ALA stood little chance of getting a wage increase with the current economic situation anyway. But anyone familiar with the vigorous and aggressive approach of the Amalgamated at the bargaining table must realize that Local 1's action carries more weight than a superficial publicity stunt.

We hope it means that the union has come to grips with a few basic facts of lithographic life in the New York area:

1. Wages in New York are approximately 20 percent higher than for any other area in the country. (Local No. 1 has 7,500 of the Amalgamated's 36,000 members. They take home between \$125 and \$175 a week.)

2. With increased wage costs, New York area lithographers have been pricing themselves out of an increasing amount of business in recent years.

3. A quick check of the classified pages of the New York phone book reveals that there are almost as many out-of-town and out-of-state lithographers

bidding for business from New York printing buyers as there are local shops. Some listings represent shops as far away as California.

4. Census figures show that while the national average for value added to manufacture in litho shops increased by 84 percent in 1954 over 1947, the New York rise was only 51 percent. (How much business and how many jobs does that figure alone represent?)

It should be noted that the out-of-towners seeking business in New York provide far more, in most cases, than a simple telephone answering service. In several cases, full-time artists are on hand to create work on the spot, without need for referral to the home office.

The union statement makes tacit acknowledgment of these things when it says "all of our members and the industry as a whole have more to gain at this time by helping our employers sell their products at a competitive level than by adding to our wage scales which would cause business to leave New York and create an unemployment problem."

Time was when lithographic salesmen could quote quite attractive prices partially because of the low wage scales in the industry, as compared with letterpress wages. That margin has long since vanished with the increased wages that were bound to come as our industry came of age and assumed its share of the printing market. But the geographic imbalance of wages *within* the litho industry itself is a very vital factor. It has cost New York dearly in business and in jobs in the post-war years.

Recognition of the situation by the union is most welcome at this time. Its cooperation with management, as represented by the Metropolitan Lithographers Association, can go a long way toward restoring balance in the lithographic industry in New York.★



stripping . . .

'Why People Pick Peck'

THE common belief that all printers are liars (when it comes to deadline promises) can work to advantage for any shop willing to make an exception to that rule.

That is the tongue-in-cheek philosophy of business expounded by John Kratz, vice president of W. T. Peck and Co., Inc., Philadelphia, a firm that wins friends by conscientiously living up to its promises.

Mr. Kratz told ML about the company's business views and their application at the Spring St. plant at a recent meeting of the Philadelphia Litho Club, of which he is a member.

Mr. Kratz came with Peck in 1948, and in the past

10 years has helped to reorganize the personnel and equipment so that the company operation is more efficient and profitable.

"One of the toughest problems in this industry involves accurate cost analysis. A comprehensive cost system is only part of the answer. Employees still must be relied upon for an accurate accounting of their time. We've encouraged supervisors to keep a close check—and accurate records—of activities in their areas."

With this nucleus, Wilson T. Peck and his associates turned toward revitalizing the sales approach of Peck. This has included a variety of advertising approaches, the

camera . . .



shipping . . .



mainstay of which has been a direct-mail campaign centered around one of the finest external house organs ML has seen — a 3¼ x 8½" folder titled *Graphic Artery*.

The folder, issued monthly, contains anecdotes, offbeat reflections, and essays on anything and everything. Usually, too, it contains a very small dose of the sales pitch, clearly labeled and so modest in approach as to be almost apologetic.

Regular Promotion Pays Off

Graphic Artery has entertained any number of printing buyers in the Greater Philadelphia area and it has paved the way for many a salesman's call, according to Mr. Kratz. Another effective piece of promotion was a four-page four-color insert in *Greater Philadelphia Magazine* with the alliterative title "Why People Pick Peck." It presented the case for Peck quite effectively, mentioning some of the satisfied users of the all-offset company's product: DuPont, Bell Telephone, Sun Oil, N. W. Ayer, *Farm Journal*, Philadelphia Dairy Products and many others.

Peck has stressed personalized service as has many another shop, but the company has reason to believe (by virtue of repeat orders) that it has lived up to that claim in a good proportion of cases. "We now have 25 employees (up from 18 in 1948) and we think we give quality jobs normally associated with much larger companies, and at a better price," Mr. Kratz asserted.

"Our biggest gain in the past 10 years has not been physical growth, but maturity," he added. In addition to the litho club, Mr. Kratz is active in Printing Industries of Philadelphia programs, being chairman of the Master Printer's Section and a member of the board. This year he is chairman of Printing Week for the city.

Sales manager Jack Welch who took ML on a tour of

the Peck shop, explained that presensitized plates (3-M) are used almost exclusively on the five offset presses: two Miller Ebco 22 x 34"; one Harris-Seybold 22 x 34"; one Webendorfer 17 x 22"; and one Webendorfer 22 x 29".

For registering work in stripping and on the plate, the shop uses Kessler register pins, developed and manufactured by Harry Kessler, of Accurate Step and Repeat System, located in the same building.

Most Jobs Use Color

About 70 percent of Peck's jobs use color, but only a small number thus far use process color.

One of the company's biggest regular jobs is "Lines of Communication," an internal publication of Bell Telephone,

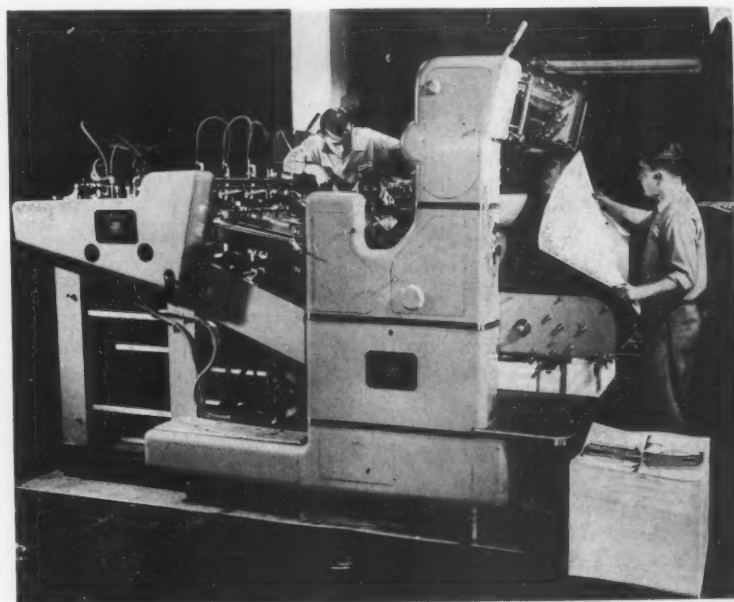
with editions aimed at various departments of the company. Three or four editions are lithographed each week with total press run for the four-page bulletins in the neighborhood of 30,000.

Edward Capkovic, another active litho clubber, is production manager for Peck, which was founded nearly 30 years ago at 1315 Race St., before the move in 1947 to 1036 Spring St.

The company is sold on the value of regular promotion, and employs the Buckley Organization in Philadelphia to create it.★



... Miller Ebco press





COSTS

do you know yours?

By *Frank R. Turner, Jr.*

Cost Accountant, National Association of Photo-Lithographers

DURING the last six months the cost department of the National Association of Photo-Lithographers has been busier than ever. It is apparent that when the business cycle drifts downward and competition gets tighter, our members think more about their hourly costs.

In the last seven years we have set up budgeted hourly cost rates for more than 400 lithographic and combination plants, all of these studies being based on specific items of costs in each plant.

In my travels around the country, I am constantly made aware of the almost complete lack of basic cost information in many lithographic plants. Most lithographers do not have up-to-date cost systems.

Last fall while on a three week trip in one section of the country, I visited a large number of printers and lithographers—both members and non-members of NAPL. When I talked to the owners of these shops, I tried to get the conversation started along cost channels and as a result I kept my own box score on my findings.

From these figures I found that only 12 firms out of 70 knew their true costs.

Undoubtedly, the box score figures which I have mentioned are not a true average as they were accumulated from a terrific growth area but, nevertheless, in other sections of the country the lack of up-to-date cost knowledge is pathetic.

From a talk presented before the Southern Graphic Arts Association convention, Louisville, May 21, 1958.

We in the NAPL have constantly hammered away on "know your costs" down through the years by way of our bulletins, our cost form books, various editions of our Blue Book, by various city cost surveys and by cost panel sessions at our annual conventions.

I believe it is worthy of mention, that the last edition of the NAPL Blue Book, dated Dec. 15, 1957, included examples of budgeted hourly cost rates for 25 photo-mechanical cost centers, 39 different single-color presses, 22 two-color, seven four-color and two five-color offset presses. Each press manufacturer's name is stated along with the model number and its maximum sheet size. In addition, complete cost computations are shown for 58 cutters, folders and miscellaneous pieces of bindery equipment.

It is interesting to know that virtually every lithographic press salesman whether Harris, Miehle, ATF, Miller, Consolidated, or Zarkin uses copies of this Blue Book as a sales tool.

Basic Information Lacking

When we go into a member's plant and ask for such basic information as capital investment for each cost center, the bookkeeper usually has to dig and dig to come up with the desired information. Such basic information as equipment and depreciation records are not to be found. The bookkeeper does not know the age of the equipment nor how much depreciation has been written off over past years. Believe it or not, many plants do not know their insurance rates per

thousand dollars of coverage, the rent per square foot, their rate per kilowatt hour or their employment insurance rate, etc.

Too many lithographers fail to include these cost items in computing their hourly rates. In our initial visit to a plant, much of the time is taken up by getting out of the cellar or from old storage files, such basic information.

Several months ago I had just such a similar experience. This particular firm had been a member of the NAPL for quite a few years but up until this time had never taken advantage of our offer to set up free, budgeted hourly cost rates for their plant. When I appeared in this plant ready for work, I was informed that they had a complete up-to-date cost system in effect but felt that they would like to have hourly rates computed by the NAPL. In this job, as in the case of most jobs, it was necessary to build up my own schedules of investment in cost centers, number of productive hours, allocation of floor space, direct labor by departments, general factory expense and the administrative and selling overhead. Then upon the completion of my rate computations, they would call a meeting of their board of directors and actually compare all of the details in their rates with mine.

As I progressed, the job became more interesting. I learned that they were working a full two shifts but they were not making money. I found their spoilage was very heavy, but spoilage records were not maintained and that even operating under two

shifts, their productivity was very spotty and that considerable overtime was being paid. I found that ink used on a job was not recorded on the back of a factory job bag envelope or anywhere else. And finally, after I really got to know their estimator, he confided in me that he was worried, because the firm was getting only 80 percent of the jobs he estimated.

Their costs, I found, had been prepared by an accountant who had no graphic arts experience—he just didn't know the lithographic process. In short, the board of directors meeting came off as scheduled and costs were compared.

For the camera department they were using a rate of \$5 an hour and yet the cameraman was receiving \$127 a week or \$3.63 an hour for direct labor alone. My rate for the camera came to \$9.25 an hour. The rates for the various other departments in their shop were also very low, the only compensating factor being that they marked up all their outside purchases such as paper, film, etc. by 45 percent. It seems to me that the few jobs lost by the estimator were on work involving heavy outside purchases.

When I had completed my presentation of this firm's cost rates, the president sat back and said, "Frank, we could not get 25 percent of our jobs if we used the rates that you have come up with." This statement probably was true, since price increases have to be made gradually. You can't jump a camera hourly rate from \$5 to \$9.25 an hour immediately, but an increase of \$1 per hour to, say, \$6 could be accomplished with further gradual increases, say every few months until your estimating rates represent your costs plus the desired profit.

We feel that we rendered to this NAPL member, and incidentally to his competitors also, a very real service.

Four Troublespots

As I see it, there are four major cost troublespots in our industry:

1. *The need to set up a reserve for spoilage.*

Probably the dollars and cents cost most commonly forgotten in lithog-

raphy today is that of spoilage. Too many lithographers have no idea of the amount of the loss that errors, makeovers, and the like, can, and do cost them each year. The lithographer should collect spoilage data, keep track of it, and include it as a part of operating costs in a "cost of spoilage report." This can be made out by the foreman or the individual man, so that it carries all pertinent facts, such as why a plate was remade, why a job was restripped and why there was a loss in press production—whether due to faulty supervision, poor workmanship, blankets smashed or paper spoiled. The bookkeeping department can then price out these spoilage reports and post these costs to a spoilage account. This account should, of course, be credited with any monies collected from mills or suppliers for faulty paper, or outside work.

2. The need for setting up and keeping budgeted hourly cost rates up to date.

Almost all of the cost factors in the lithographic industry are constantly increasing. Working hours have shortened in recent years. Wages, too, have increased considerably. Nearly every item of supplies and all of the other costs going to make up hourly rates have increased. Therefore, every lithographer should have hourly cost rates set up based upon the economics actually existing in his own plant.

There are changes in your litho economy that creep up on you—none of them very startling in themselves; most of them hardly evident at all unless you look for them—but just as surely as water runs through a sieve, they drain away your profits and leave you with the bewildered question. "What am I working for?"

3. Need for production data applied realistically to your hour costs.

The soundest way to know what production standards are in your plant, is to install time cards and collect time for various operations in each department. Each employee can then record, for instance, the number of flats of a given size stripped during a given period of time, the num-

ber of plates of a given size made, the time necessary for makeready, to washup, to produce a given number of good sheets during the average work hour of a month or longer.

Such time record maintained, for even as little as a 60-day period, will give an employer some idea of how long it takes for various work operations in his own plant. Such a time study continued for a year or longer actually builds sound production standards for a plant owner.

4. The need for compensating a salesman properly and for sufficiently marking up an estimate.

A recent survey by the NAPL disclosed that 108 firms marked up their jobs as follows:

| | PERCENT OF TOTAL |
|--|------------------|
| 16 firms marked up 15% or less | 14.8 |
| 16 firms marked up 15 to 20% | 14.8 |
| 36 firms marked up 25% | 33.4 |
| 2 firms marked up 26½% | 1.8 |
| 2 firms marked up 26¾% | 1.8 |
| 6 firms marked up 30% | 5.6 |
| 24 firms marked up on a price list basis | 22.2 |
| 6 firms—Misc. | 5.6 |
| 108 | 100.0% |

From these figures one can note that the average mark-up (used by these 36 firms) was 25 percent.

Now let us look at another part of the same survey—how the salesmen's commissions were computed:

| COMMISSION FIGURED ON: | FIRMS | PERCENT |
|-----------------------------------|-------|---------|
| Gross Sales Price | 50 | 46.3 |
| Gross Costs | 6 | 5.6 |
| Basis of Mark-Up | 4 | 3.7 |
| Costs less freights and discounts | 6 | 5.6 |
| Miscellaneous—all different | 42 | 38.8 |
| | 108 | 100.0% |

Here you will note that most reporting firms paid their salesmen a percentage on gross sales.

Finally, the survey took up the question of "How do you compensate your salesman?"

| FIRMS | BASIS OF COMPENSATION | PERCENT |
|-------|---|---------|
| 16 | Salaried Salesmen | 14.80 |
| 2 | Salary for dollar sales quota, over quota—5% | 1.85 |
| 2 | Salary for dollar sales quota, over quota—3% | 1.85 |
| 2 | Salary to cover \$100,000, over quota—5% on av'ge | 1.85 |
| 12 | At 7% | |
| 8 | At 7½% | 20.35 |
| 2 | At 7¾% | |

(Continued on Page 121)

3.

Masking, Color Separation for transparent and reflection copy

By John M. Lupo, Jr.

Technical Representative
Di-Noc Chemical Arts, Inc.

IN the last article we left off at the completion of the red filter negative. No doubt some of you continued on to make the additional separations, and I hope with some success. But for those who did not, let us finish this set. But before getting on with the green filter negative, let's take a short break to consider a couple of important points.

Filter Factors

We started this set of separations with the red filter. The reason behind this is important. When we place a filter in front of the lens on a camera or in front of an exposing light, we are changing the amount and color of light reaching the film. Different filters will transmit or absorb various quantities of light. Consequently, when we use a filter the exposure has to be increased as compared to an exposure without a filter. This change of exposure is referred to as a *filter factor*. Basically this factor refers to the additional exposure required to compensate for the loss of light reaching the film.

Of course, different filters have different filter factors. However, in color separation work, the filter factors are given in relation to a factor of 1 for A red (No. 25) filter, on exposure to carbon arc.

Let's explain this in another way. The film manufacturers figure out the exposure without a filter to give a specific result. Then they increase the exposure with the A filter until they get the same density readings. When this exposure for the red filter has been established, they make additional tests on the other filters to duplicate what they got on the A

filter. In practice this may mean something like the following:

A filter exposure.....30 seconds
B filter exposure.....60 seconds
C filter exposure.....90 seconds

We can then say that the filter factor for the A filter is 1, the factor for the B filter is 2 (found by dividing the A filter exposure into the B filter exposure). The factor for the C4 filter then is 3.

In use, these filter factors are quite important. For example, if we know the exposure for the red filter negative to be 24 seconds, we can find the B filter exposure by multiplying the red exposure by 2. The proper exposure time for this filter would then be 48 seconds. The factor of 3 for the C4 filter would indicate an exposure of 72 seconds.

This appears quite simple, for all you have to do is find the A filter exposure, then multiply by the filter factors for exposures on the other colors. However, when exposing in a camera you may find some differences in the published factors because

of the individual characteristics of your lens in relation to flare and color correction. The arc intensity may also vary from that which was used by the manufacturer in his testing.

Generally speaking, the factors for arc exposure usually are fairly accurate. The main problem when using these filter factors is to correct them to the specific type of tungsten light you may be using for your contact printing. The published tungsten factors or filters do not of course cover the extremely broad range on this type of lighting, and consequently you may get very wide variations on your testing if you adhere completely to these tungsten figures. They will have to be corrected to your own light set up.

Color Temperature

The filter factors for tungsten as compared to arc light are radically different. This is illustrated in the factors for the Cramer Trichromatic Plate in Figure 1. The question here is what is tungsten light? A 60-watt bulb has a completely different color quality than a 3200 K bulb, and both of course are considered as tungsten light. The difference between these two lights in color quality will make a difference in the result on an exposed piece of film. Arcs are extremely high in blue as compared to tungsten and as a result the factors for a blue filter exposure are quite low on the arc lighting as compared with the tungsten light.

We have touched on a point here that is often overlooked in color separation work — the color quality of light. We have previously stated that

Reprints

If interest warrants, reprints of this series will be available upon its conclusion later in the year. Cost will be about \$2. Readers may reserve a copy by writing editor at Box 31, Caldwell, N. J., and mentioning "Lupo No. 2." (Send no money now). Reprints of Mr. Lupo's earlier series "Three-Color Direct Separation," still are available from the editor at \$1 a copy. (Specify "Lupo No. 1.")

white light consists of a blend of all colors. However, light varies in whiteness to a great extent. Therefore it stands to reason that there should be some way to measure this color quality of light. This measurement is referred to as *color temperature*, and is expressed in terms of a temperature known as degrees Kelvin (abbreviated K). This Kelvin reading is something like a Fahrenheit scale which we use for taking ordinary temperature readings, except that the Kelvin scale takes a much higher temperature reading.

Color temperatures can go as low as 1900 K for a candle and upwards of 10,000 K for a clear blue sky. A 60-watt bulb will give a temperature of 2800 K, and a high intensity carbon arc will range from 5100 to 5800 K. *The higher the color temperature the bluer the light; the lower the temperature the more red is the light.*

On the KM Tri Level light source used for this set of separations, the color temperature on the No. 2 and 3 taps is almost exactly 3200 K, while on the No. 1 tap it is about 2600 K. Consider this for a minute, and you will see what this difference in temperature means. If we had an exposure adjusted for the No. 2 tap, and decided to expose it on the No. 1 tap, making the necessary adjustment in exposure, we would not get the exact result we got on the No. 2 tap. The No. 1 tap would give us a more contrasty red filter negative since it is lower in color temperature and contains more red light. This means there would be a greater transmission of red light to the film, as compared to the light we would get from the No. 2 and No. 3 taps. The No. 2 and No. 3 taps would have a lower filter factor on the blue filter negative since it is higher in color temperature and consequently higher in blue light.

The important points to remember about this subject of lighting are these:

1. White light consists of a blend of colored light, and is measured for its color quality by its color temperature, expressed in degrees Kelvin.

2. When we change the temperature

of light by using a different type of light source it may have pronounced effects on the color quality and consequently give us a poor result. If you establish a procedure on one type of light source, stick to it and do not try to change over without completely checking it, and making whatever corrections are necessary for acceptable results.

3. The filter factors given by the manufacturers are merely *guides* in your testing; you will have to establish your own set of factors for your individual conditions.

An interesting sidelight to the importance of the effect on color temperature to filter factors, is that in some foreign countries a filter factor is given in two parts, one for the color temperature of the light source, and the other for the speed of the film. By using both of these you will get an exact factor for any type of light source.

I hope I haven't bored you with so many details and put you on the verge of frustration. However, if you can understand the reasons behind the practice it will no doubt aid you to some extent in making better separations. Now, on with the job.

Green Filter Negative

The next separation we are going to make is the green filter negative (magenta printer). Follow the same procedure as we did on the red filter negative, and give exposures of 5 and 7 seconds. Develop in DK 50 (1:1), for four minutes. The results are shown in Figure 2. Note that the contrast of the green filter negative is slightly less than the red filter negative. This reduced contrast in

the green filter is quite normal. Generally this particular separation requires a slightly longer development. This is true of various film developer combinations on this filter. The corrected developing time and complete details for exposure are shown in Figure 3b.

Blue Filter Negative

The blue filter negative usually presents a problem both of exposure and developing time. Tungsten light is low in blue and consequently the factor for this filter on tungsten light is quite high. In addition, the developing time of the blue filter negative has to be increased over the red filter negative.

This increased development applies to both arc and tungsten exposure. In our first test we made a 6, 10, 14 and 18 second exposure with a 7-minute development. The results are shown in Figure 4, with the final separation and details for correction illustrated in Figure 3c. Generally speaking, the blue filter negative requires about 50 per cent longer development time on almost all types of films.

Finished Separations

Well now that we are all finished with the three separations, what do we have? Let's take a look at the chart in Figure 5, to get a complete picture of the problem of color contamination which is posed by these separations. (We have not made a black printer for this set as this will be covered in complete detail later on.)

The amount of contamination we have in these separations certainly

FIGURE 1. Filter Factors for Trichromatic Plates

| | A-25 | B-58 | C5-47 | F-29 | N-61 | C4-49 |
|-----------------|------|------|-------|------|------|-------|
| WHITE FLAME ARC | 1.0 | 1.1 | .25 | 2.2 | 1.5 | .75 |
| PHOTOFLOOD | 1.0 | 1.9 | 1.5 | 1.9 | 3.0 | 7.5 |
| TUNGSTEN | 1.0 | 2.2 | 3.0 | 2.2 | 4.0 | 15.0 |

FIGURE 2. Green Filter Exposure Test

| | DENSITY STEP | DENSITY STEP | |
|---------|--------------|--------------|-------|
| EXPOSED | No. 3 | No. 16 | GAMMA |
| 5 secs. | 1.50 | .35 DR 1.15 | .57 |
| 7 secs. | 1.57 | .40 DR 1.17 | .57 |

Exposures made on Trichromatic Plate, with KM Light at Tap No. 2. Developed for four minutes in DK 50 (1:1) at 68 degrees with constant agitation, to green filter N-61.

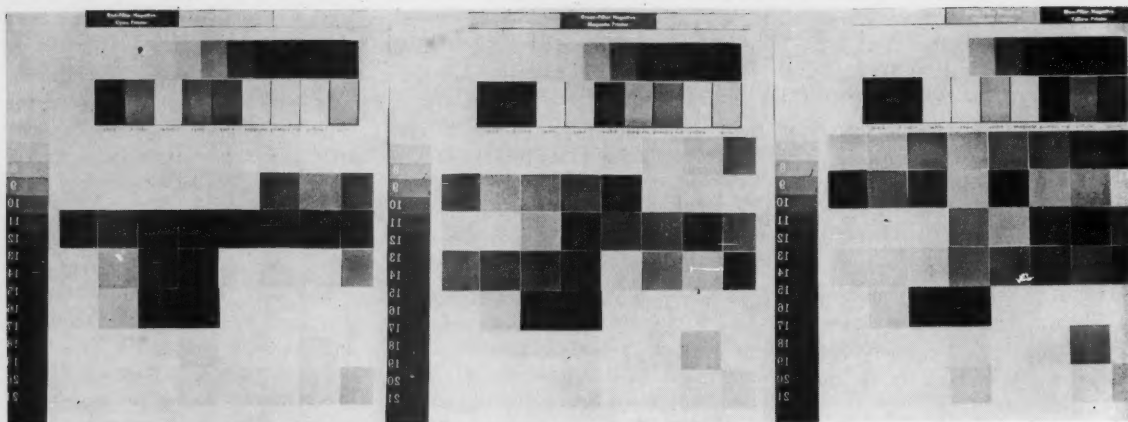


Figure 3a. Red filter exposure, exposed five secs., developed in DK 50 (1:1) for four minutes, gamma is .66, high den. 1.85 in step 3 and low den. .52, with DR of 1.32. F-29 filter used. Figure 3b. Green filter exposure, exposed five secs., developed in DK 50 (1:1) for 4 3/4 minutes, gamma is .64, high den. in

step 3 is 1.80, low den. .52, with DR of 1.28. N-61 green filter used. Figure 3c. Blue filter exposure, exposed for eight secs., developed in DK 50 (1:1) for 6 1/2 minutes, gamma of .67, high den. in step 3 of 1.81 and low den. in step 16 .47, DR of 1.34. C-49 filter used.

would not present an acceptable printed result, consequently some correction must be made. We can do this correction by dot etching, the simplest procedure of which would be to remove the unwanted colors on the half-tone positive by using ferricyanide. Or we can use a procedure of photographic correction which we call *masking*. Before we go into this subject let's pause once more to cover a few other points.

Dimensions of Color

Suppose you had gone to a lumber yard and asked for a piece of wood. The chances are you might say that you wanted a board, 10 feet long by 8 inches wide and 1 inch thick. You would give three dimensions, because two dimensions would not properly identify the lumber. In color we have a similar situation and we need to describe it in terms of three dimensions: hue, value and intensity.

Hue is the common name of the color as we refer to it, such as yellow, red or blue etc.

Value is a measure of the lightness or darkness of a particular hue.

Intensity is a measure of the purity of a color.

At first hand this may seem simple, but after thinking about these terms you may get confused, so let us illustrate them in another way. The description of a color is commonly called its hue, or the color name as

we know it. The value is a measure of the lightness or darkness. For example, if we were to print a solid yellow, and then a 50 per cent tone of it, there would be a difference in the two, but this difference is only because of its lightness or darkness, since we have done nothing otherwise to change the original hue. Intensity is a measure of what we might call the "grayness" of a color. For example, the yellow we mentioned before may not have been a pure yellow and may be toward a slightly gray side, consequently this characteristic

of its lack of purity is a must for correct measurement of a hue.

These terms as such are not well used in describing hues in color separation, but it is important to know how to describe and interpret a color for reproduction, consequently I have mentioned them here. Remember, when thinking of a particular color describe it in terms of its hue, its value (lightness or darkness) and its intensity (or purity).

At this point I'd like to get back to that nasty word we spoke so much

Figure 4. Blue Filter Exposure

| EXPOSED | DENSITY STEP | DENSITY STEP | | GAMMA |
|----------|--------------|--------------|---------|-------|
| | No. 3 | No. 16 | | |
| 6 secs. | 1.64 | .21 | DR 1.43 | .71 |
| 10 secs. | 1.85 | .42 | DR 1.43 | .71 |
| 14 secs. | 1.97 | .51 | DR 1.46 | .73 |
| 18 secs. | 2.10 | .60 | DR 1.50 | .75 |

Exposures made on Trichromatic Plate, with KM Light at Tap No. 2. Developed for seven minutes in DK 50 (1:1) at 68 degrees with constant agitation, to blue filter C-49.

FIGURE 5. Amount of Color Printing in Each Color Block

| PRINTER | YELLOW | ORANGE | RED | GREEN | BLUE | BROWN | GRAY | BLACK |
|---------|----------------|-----------|------------|------------|------------|-----------|------------|----------|
| YELLOW | too little | O.K. | too much | too little | too* much | too* much | too little | too much |
| MAGENTA | too* much | fair | too little | too* much | too* much | too* much | fair | too much |
| CYAN | slight* amount | too* much | too* much | fair | too little | too* much | too much | too much |

In reading across the page you can see the amount of color printing in each of the various colors listed above. Asterisk indicates there should be no color at all. For example there should be no magenta in the yellow block, although the separation shows there to be too much. Read the columns vertically to see what the final printed sheet will look like. In the blue column, you can see there is too much yellow and magenta and too little cyan. With this combination the magenta will throw off the blue to a red shade and the yellow will make it still lighter.

of in Article No. 2: *gamma*. We mentioned that we could find *gamma* by dividing the original intensity range into the desired or resulting density range. Actually this explanation requires some clarification. To clear up this question it is necessary to describe a *D log E* curve.

In order to evaluate correctly an emulsion of any type we must have a scientific way of recording the effect of light on this emulsion. In this manner we can then compare the results of one emulsion to another. One of the most important methods of evaluation of emulsions is called a *D log E* curve. *This is nothing more than a comparison of exposure to density*. The exposure is made on an instrument called a sensitometer and the relation of the exposure to the density received from this exposure is plotted on a scale called a *D log E* curve. An illustration of this is shown in Figure 6. Notice that there are three distinct portions to this curve: (1) the toe, or slightly curved area on the bottom, (2) the straight line portion, and (3) the shoulder or curved portion at the top.

The toe of the curve is quite important and will determine to some extent the minimum amount of exposure we will need to expose the material correctly. The toe also brings to light another point—photographic emulsions do not react to the amount

of light by yielding directly proportionate increases in tone. Let's explain this further. We expect that if we expose something for one second, and then double this to two seconds, that we would get from the two second exposure a density double that of the first exposure. Unfortunately this is not the case. In other words there are certain exposures which can be made on photographic materials which do not yield a proportional increase in strength of image. Failure of emulsion to react to tone increases proportionately to exposure is known as *reciprocity failure*. We are concerned with this in color work to make sure that the exposure of the continuous tone materials is above the toe of the curve and consequently will proportionately reproduce the tone in relation to density values.

The straight line portion of the curve is that portion which will accurately reproduce tones in relation to exposure, and all exposures for continuous tone materials should be made to be within this area. The length of this straight line portion is a good indication of the latitude you have in the film. A longer straight line portion means a greater exposure latitude; a shorter line means the exposure will be more critical. *Gamma* is a measure of the slope of this straight line portion and does not

take into the toe or shoulder of a negative.

The shoulder of the curve, commonly called the region of over-exposure, will give you an indication of the maximum density you can get with this material. Notice that an increase in exposure on this portion will not give proportionate increases in density. This is similar to the toe of the curve. A film has a maximum density which it will reach, and an increase in exposure or development beyond this point will not change this maximum density. If you exposed a conventional litho type film to sunlight for 10 minutes and another for 20 minutes, and developed both fully for 2½ minutes you would get no difference in the density as both exposures would have reached maximum density of the film.

Now to clear up this point about *gamma*. You can use the chart in article No. 2, when figuring the necessary *gamma* you require for a particular mask or separation, because you are merely working with figures and not with a plotted curve. However, when you make a contact or an exposure of any type you will have to plot it on a curve, such as those already shown, to figure *gamma*. If you use the chart (in article No. 2) to figure *gamma* of the developed negative by comparing density ranges of the finished negatives to the original you will have an error because the density range of the developed negative takes into account the small toe and shoulder portion you would get if you plotted the curve.

In most cases, however, you will want to simplify your calculations and figure *gamma* in this way. Remember, though, that you are working with a *slightly incorrect* figure and this may cause trouble at times. Plotting a curve to figure *gamma* is quite simple and *gamma* can be easily figured out by a ratio as illustrated in Figure 7.

Balanced Separations

I'd like to explain just one more important point before we get into masking. That is the importance and interpretation of a set of balanced

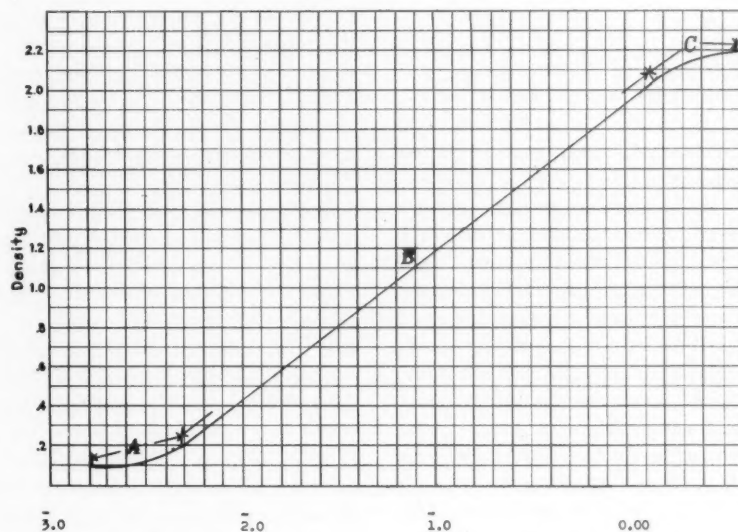


Figure 6. *D Log E* Curve. A is the toe of the curve, B is the straight line portion, and C is the shoulder.

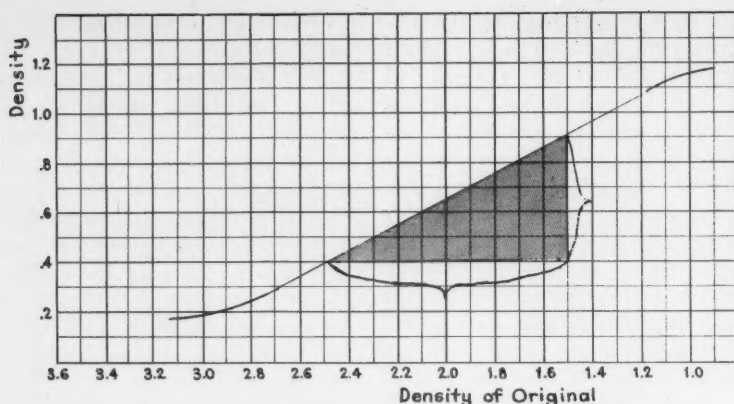
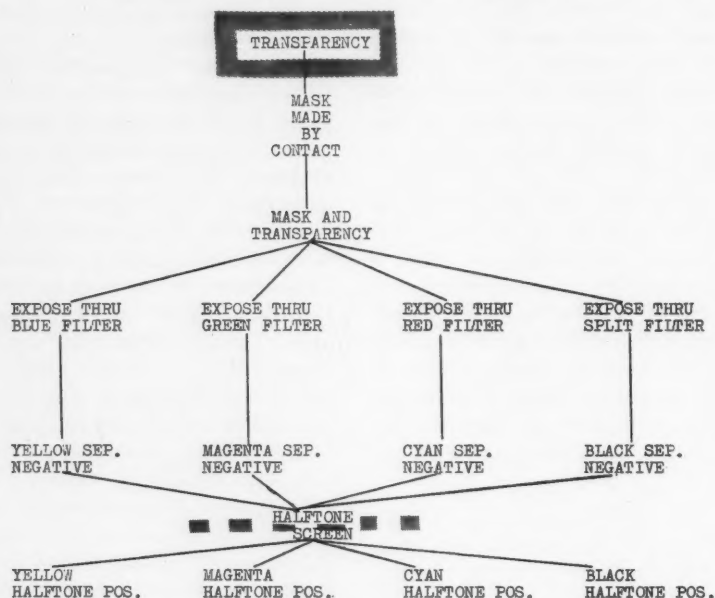


Figure 7. Gamma Illustration. To find gamma make a square as shown on the straight line portion of the curve. Then divide the number of vertical boxes by the number of horizontal boxes. (e.g. 10 into 5 will give .5. This is the gamma.)

FIGURE 8. Negative Masks on Transparencies



separations. Theoretically speaking, all separation negatives should be identical, but practically speaking this is almost impossible. You do have a margin of error. I really cannot give you tolerance figures because they will depend on so many factors. However, I will give you some figures of safety.

It may be misleading to say that all separations should be in close balance because under certain conditions you may want a slight out of balance to give a specific result. We may say that the so-called average set of separations should be relatively close

for the yellow, magenta and cyan printers.

Now what do we mean by balance? Should all the separations have an identical high and low density reading? Or should they have a density range with close high and low readings? *The important thing concerning balance is that all the separations should have a similar density range with the proper exposure to record the individual steps in proper relation to their tonal values.*

Now this might seem like a long definition but let me explain it a little further. Suppose we made a

separation on a continuous tone material and got a low density of .3 and a high of 1.7, giving us a range of 1.4. Let us also say that the gray scale used on this set contained 14 steps and the resulting negative had an increase in density of .1 for each step. Now suppose with the same type of film we made another separation with a low density of 1.5 and a high of 2.9. The density range still is 1.4, identical to what we got above. However, the individual gray scale steps would not have a similar increase of .1 density. Consequently, the two separations are not identical because they will not reproduce the original in the same way.

As a general rule of thumb let's say that the minimum density you should get on your final separations should be about .3 and can go as high as .6. If you fall within this low range and the density range difference of your separation is within .1 (except in the black printer) your separations are in balance. The black printer presents a special case on this balance of separations. (We will discuss this in more detail in future articles).

Definitions for Masking

There is a saying that according to the laws of aerodynamics, the bumble bee cannot fly, and to some non-believers, masking is not supposed to work. This is an interesting point and a good comparison. Since the bumble bee *can* fly, however, does not mean that it will go faster than a jet, and since masking *does* work does not mean that it will take away the job of the dot-etcher. Each has a specific purpose, with its own limitations.

With masking we can correct quickly and with a fair degree of accuracy of reproduction, however nothing can replace the skill of the dot-etcher for certain types of correction. The combination of the two, each working within inherent limitations, will no doubt turn out the closest you could get to a perfect job (if there is such a thing). Masking does however have the advantage of giving a good reproduction without hand correction, and its improvement in overall job quality will depend first

on the quality of the original subject (whether transparency or reflection copy) and secondly on the specific types of masking used.

I have at times been asked, how much should we mask? Will one mask work, or should I use two, three or four? This is just about impossible to answer because the degree of masking depends on the original art and to a great extent on the economy of the job itself. For example, a double overlay masking procedure, which we will discuss later on, uses 20 pieces of film. This includes highlight, positive and negative masks together with an undercolor removal mask, separations and final positives. For the customer who wants to spend a minimum on a job this type of masking will no doubt give him excellent results but at a much higher price than he can afford. His answer may be a one or two-mask procedure, which will give good quality for the money.

So in the long run, the specific procedure and degree of masking will be up to you. We are not advocating any specific procedure, but will give you a number of procedures with varying degrees of masking. You will have to be the final judge for selection of one which will take into consideration results desired and economy.

Masking is really quite difficult to define, because it takes in such a broad field, but in general we may say that *masking is a photographic procedure which will correct for unwanted colors*. There is no need to go into the need for masking as this is brought out in the illustrations in Figure 3. But there are certain terms used in masking which are important to understand before we can go any further:

Negative masks: this term, for the purpose of these articles, will refer to a silver mask made from a positive. (In certain types of masking you used dyed negative masks such as that used in the Magenta Masking procedure.) These negative masks are made from the transparency and then registered to the transparency for making the final color-corrected sep-

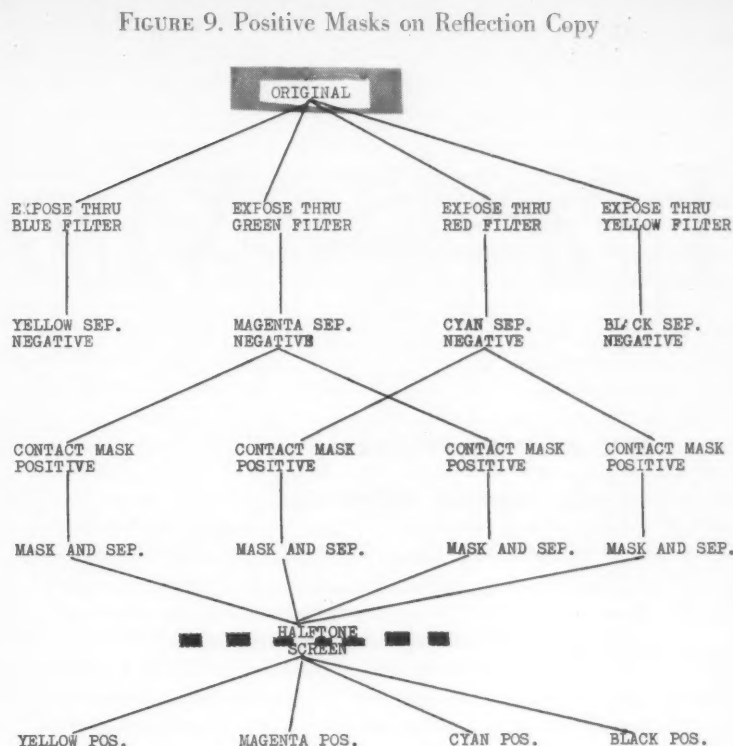


FIGURE 10. Perfect Inks

| PRINTED INKS | RED FILTER | GREEN FILTER | BLUE FILTER |
|--------------|------------|--------------|-------------|
| YELLOW INK | .00 | .00 | 1.60 |
| MAGENTA INK | .00 | 1.60 | .00 |
| CYAN INK | 1.60 | .00 | .00 |

Note that a density reading is found only in one of the three filters on each ink.

FIGURE 11. Density Readings from set of Standard Process Inks.

| PRINTED INKS | RED FILTER | GREEN FILTER | BLUE FILTER |
|--------------|------------|--------------|-------------|
| YELLOW INK | .02 | .07 | .98 |
| MAGENTA INK | .12 | .98 | .39 |
| CYAN INK | 1.10 | .35 | .16 |

arations. The term can also refer to correction masks made with the full-scale positives used in the overlay procedure. An outline of the negative masks on transparencies is given in Figure 8.

Positive mask: usually made from the separation negative, and then registered to another separation, the combination being used to make the corrected halftone positive. This procedure is illustrated in Figure 9.

Sharp and unsharp masks can be made from either negatives or positive masks. This type of mask is used for a specific purpose. When working with film it is desirable to have a slightly unsharp mask, as this will tend to eliminate the problem of per-

fect register and consequently give a sharp effect in the result. On glass plates, with exceptionally fine stability, sharp masks generally are used.

Highlight mask: essentially a mask which records on a negative the highlights of the original to protect them from burning out in the separation or halftone procedure. Highlight masks usually are made on either high contrast lith ortho film or on a high contrast pan film.

Undercolor removal mask: removes color from the areas that are printing a solid black. For example, if we had a black area on the original, we would print a solid yellow, magenta and cyan in this area together with a fair

(Continued on Page 122)

La Morindan

an offset weekly with 'snob appeal'

LA MORINDAN is a weekly newspaper which deliberately tries to have "snob appeal." This interesting facet of its production almost overshadows the fact that it is another of the growing number of newspapers by offset—and a handsome job it is.

As publisher Gale C. MacMorris explained to ML, *La Morindan* caters to a rather select audience in Orinda, Cal., a small suburb of Berkeley. "Our paper is published in a community which has an average income of \$14,000 per family. These people are definitely society conscious and community conscious," he observed. "The area is flooded with shopping papers and newspapers of all kinds. To meet the competition is to be distinctive both in size and content.

"My main appeal is readability obtained by a clean format utilizing photographs as much as possible to take advantage of offset's forte. It has been said that *La Morindan* has 'snob appeal.' It has been slanted that way intentionally, to appeal to high fashion advertisers. We want to obtain a believability in our accounts advertising by not running blatant advertisements."

The newspaper's bright content is as pleasantly removed from the usual hum-drum content of the typical weekly newspaper as the high quality of reproduction is from that of the usual murky letterpress weeklies.

Photos are used aplenty, and there are columns devoted to record reviews and hi-fi equipment, art exhibits, new homes in the area (they would seem to be in the \$40-50,000 category), gardening, bridge, travel and other aspects of easy living.

The paper is published every Thursday on a Potter offset press by Moresi Printers, of Pleasant Hill, Cal. Mr. MacMorris, who is a "one-man show," submits pasteups to the offset shop. Before that he writes most of the news, does the makeup and sells the advertising. The paper issued its first copy Feb. 6. Early copies ran to 12 pages, 11 x 17" in size. The editor and publisher estimate that it costs about \$1,000 to put out a 12-page paper of approximately 5,000 circulation.★

Two typical pages from *La Morindan*, showing heavy use of excellent photos to illustrate local stories in the California offset weekly published by Gale C. MacMorris.





Trends in Litho Bargaining

By *Quentin O. Young*

Philip Morris & Co.
New York

A SURVEY of the 1957/58 labor-management negotiations shows that during 1957, there apparently was a pattern established of 12 cents an hour increase in 1957 and 12 cents an hour increase in 1958 for the two-year contract terms. In the contracts that have been negotiated so far this year, the price seems to have gone up quite considerably, and it appears to be closer to 20 cents and 14 cents over the two-year period. In holidays, generally speaking, there has been an additional holiday granted right across the board during the last year either in the nature of a half day before Christmas and a half day before New Year's, or a stated full holiday at another time.

The Amalgamated is getting closer and closer all the time now to having three weeks vacation after one year's employment. That is not consistent all the way throughout the country, but gradually the gap is being closed.

Another thing that has been consistently negotiated by management—which I personally believe is not good—is an increase in health and welfare contributions. The majority of contracts provide for a cash contribution per man per week into the health and welfare fund. This is the wrong way to negotiate. You should negotiate benefits, and the employer should then pay the bill. As an example of that, in one of the eastern cities, where the union has now demanded and increase in health and welfare from \$2 to \$3, the union has about \$67,000 in reserve, which is enough to run the health and welfare program for almost three years. Now the union is back in there looking for another dollar a week increase, without any justification other than that they want more money!

Now, if the health and welfare benefits had been negotiated rather than a cash contribution, the employer, having full control of the cost, could automatically discontinue paying money into the health and welfare program as long as there was a surplus capable of running two to

From a talk delivered at the 53rd annual convention, Lithographers National Association, Phoenix, May 1.

three years. That does not mean that you could discontinue contributions entirely, but certainly, from sound business judgment, a one year surplus should be sufficient to carry any sort of a health and welfare program.

So much for what in highlight was negotiated in the last year. I would like to discuss now the proposals which have been submitted around the country by the Amalgamated during 1958. I was told not too long ago by the president of one of the locals that the proposals as they were submitted at that time only in Boston, were the Amalgamated's three to five year plan for the industry. In other words, the proposals in Boston did not happen just in Boston; they are going to be spread all across the country.

Careful of Language

In discussing these proposals it is necessary to analyze very carefully the language that is used. The first proposal that ALA makes is in regard to representation or recognition of the union. Briefly, I think I should go back a little and say that in my opinion, the proposals as they have been submitted by the Amalgamated are designed primarily for two purposes. One is in connection with the jurisdictional dispute with the pressmen's union and the typographical union, and the other is to gain control for the future of the industry for themselves as against all unions.

In its demand for recognition, the Amalgamated starts off asking to represent all lithographic production employees. Frankly, after some three-and-a-half years, I could not define all lithographic production employees, and I seriously doubt that anybody could. Presently, in your contracts around the country, the Amalgamated may represent solely skilled craftsmen. In other areas, they will go all the way down almost to where they are representing janitors and broom sweepers, all of whom can or cannot—depending upon who is making the definition—be included in the term lithographic production employees.

Secondly, and more importantly, is

that in the future operation of the industry, I don't think anybody can predict what is going to be lithography in another five to 10 years. What they are asking, therefore, in the first instance is that you buy a pig in a poke; that you agree to do something in the future about which you cannot possibly determine the extent of your liability right now.

The next proposal is that management shall agree today that they shall never sign a contract covering lithographic employees with any other union. In other words, the union wants to really bind your hands with an indefinite thing for all future purposes.

Thirdly, in the representation clause, the union asks employers to refuse to recognize the grant of jurisdiction of lithographic production workers made by governmental agency. That does not look too bad at first glance, but what it means actually is that if the National Labor Relations Board held an election and decided that lithographic production employees should be represented by union "X" rather than the Amalgamated, you as an employer would agree now that you tell the National Labor Relations Board to go fly a kite! Well, I just don't think that it is very good business because the labor board has an awful lot of power, and you will only be asking for trouble if you agree to that.

The next proposal, going down the list, is in regard to consent elections, whereby the National Labor Relations Board certifies a union as the collective bargaining representative for an appropriate bargaining unit. The proposal looks very good on its first reading. I have to admit I had to read it three or four times or more, before I found out where the joker lay in this clause.

The last sentence says the company will consent to any election required thereunder. That means that you agree right now to go into the board and ask for certification and you will let the union determine who is to be in the appropriate bargaining unit. Now, very obviously, if you have strictly a litho plant and no other unions around, there may not be too

much difficulty. But if you have other unions in the area, under the provisions of this contract and under the proposal that all lithographic production employees be represented by the Amalgamated, you would let the Amalgamated determine who is to represent your employees regardless of what union may be doing it at the present time or whether the Amalgamated is capable of actually representing that particular type of craft.

Going down further into these demands, the union has requested jurisdiction in effect for all new processes and new machines and new work. It has asked that you give the union 90 days notice if you propose to install new equipment or new machines. That, in my opinion, is asking you to directly violate Section 8 (a) (3) of the Act which prohibits an employer from favoring one union against another. This whole proposal follows the general pattern that you as management should give up all of your rights, and the union is going to be in full control to determine what will be done and what will not be done.

Let's consider now the proposal for a trade shop clause, as the ALA puts it. In the event that an employer should request an employee to handle work that has not previously been handled by an Amalgamated employee, the union has a right to terminate the contract and in 10 days to go on strike. The word "request" is a rather odd one, because no matter how you discuss the situation of bringing non-Amalgamated goods into your plant with an employee, you very obviously would be requesting it. Mental telepathy is such that if you merely think about it, ALA might very well say that we can terminate the contract and strike you in 10 days.

In the Struck Work or Unfair Labor Practice clause, ALA has presented another very nice little problem, and that is that the employer under the contract must have an agreement with the Amalgamated entitling the employer to use the Amalgamated's union label. There again it does not sound so bad except that the Amalgamated has a property right in

the union label and the Amalgamated can give the label to you or take it away. They can give it to you or take it away at will, and it has no effect on the collective bargaining agreement. Your employees will still be represented by the Amalgamated so that any time ALA really wanted to put the squeeze on any employer who is using the Amalgamated union label, it could just say, "we are withdrawing your right to use the label." You would have absolutely no recourse as a matter of law nor before the National Labor Relations Board.

In this same clause, the union has a new provision. Historically, there have been provisions in our contracts whereby an employer agreed that he would not bring into his shop any lithographic work which had been performed in other shops that were not under contract with the Amalgamated. Now, ALA has gone one step further, and asks you to agree that you will not sell any lithographic work which is going to be further processed in a shop that is not under contract with the Amalgamated. In other words, the union wants to tell you where you are going to *buy* and where you are going to *sell*. Now, very obviously, that would be a tremendous economic blow to the entire trade platemakers industry, because it would eliminate entirely their right to sell to open shops and to shops represented by the pressmen's union and the I.T.U. or any other union.

[On June 16 author Young advised ML that "The Supreme Court just rendered its decision in the American Iron and Steel Door and Plywood cases which holds in effect that a 'hot cargo' clause cannot be enforced by the union. The Court refused to go so far as to say that the clause was illegal. The Steel Door case involved a refusal of union carpenters to hang prefabricated doors that did not bear a union label. This is the identical situation that Amalgamated is seeking to enforce on the employers today."]

Here again you have a clear violation of Section 8 (a) (3), because such a provision is very definitely favoring one union against another.

In the picket line proposal, what
(Continued on Page 105)



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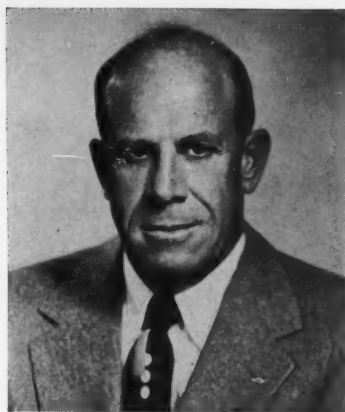
THE CHAMPION PAPER AND FIBRE COMPANY

General Office: Hamilton, Ohio

Mills at Hamilton, Ohio ... Canton, N. C. ... Pasadena, Texas

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PEOPLE

are more important than

MACHINES

By Otis E. Wells

President, National Association of Photo-Lithographers and president, Western Lithograph Co., Wichita.

WHETHER you are considering customers, employees, management, stockholders, vendors or markets—you name it and it's people.

The business you operate is people.

The money you make or lose is the direct result of people.

The three "M's" which all of us are familiar with—men, money, and machines—are important, but most important are the men, the people. Many of us place too little importance on people.

When you are considering the purchase of a new piece of equipment you'll do a lot of thinking, checking, comparing, analyzing and figuring before you spend your money. But when it comes to hiring a new employee too many of us are prone to hire the first person we see with little or no thought as to his aptitudes, personality, and intelligence.

I often wonder how we stay in business when about the only basic requirement we use in judging the quality of a new employee is that he is capable of breathing.

So we need a feeder on a press and what happens? We hire the first guy we can lay hands on, push him into the pressroom, and he is supposed to be a feeder. In all probability we didn't even take time to tell him where the wash room is located. He will find it because mother nature will force him to do so.

In less time than you think, this feeder becomes the person operating as a pressman—operating a press

that cost you thousands, yes, perhaps well over a hundred thousand dollars.

If by chance he turns out to be a good pressman, it isn't because of any brilliant ability on your part. You've just been lucky. You can't run a business on luck. The quality produced by this man you hired; his efficiency, his brains and abilities can make or break you.

It is hard to understand why we won't apply the same careful consideration and selective thinking to the hiring of people that we apply when we buy equipment.

The youngster we hire today has more potential than a machine. If we consider his work expectancy as 45 years, then we'll probably pay out to him in wages more than \$270,000. With this kind of money, it makes sense to hire people who have the right aptitudes, the mental capacities and the abilities to deliver top performance.

Tests Have Helped

For the past 10 years Western has used aptitude, mental efficiency and personality tests as a means of selecting personnel in our sales, office and management positions. We believe the results we have achieved are proof that it pays to test and to be ultra selective in the people we put on the payroll.

For the past two years we have been testing the people we hire for plant jobs, and so far we think it's the wise thing to do. I am sure we are getting better personnel than ever before.

The schooling, training and mental

capacity of these people we hire are going to go up, up to much higher levels. The people in our plant in the next 10 years must be of top intelligence and have skills and abilities that far exceed the average as we know it today.

Our industry in my opinion, has lagged far, far behind other industries in research and development of better ways to produce our product, improve our quality, and achieve an efficiency that will give our customers more for their money.

Yes, I know we think we have advanced in our methods, but in truth we have hardly scratched the surface. The main reason for our slow progress is the lack of interest or foresight on the part of all of us as plant owners to lay the money on the line for research.

How can we expect results when, for example, in the lithographic industry we are spending about 1/100 of one percent of sales for research?

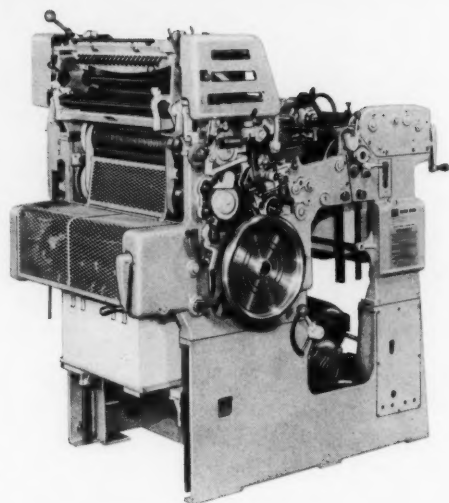
One of these days there's going to be an awakening. I hope. When it comes and we put the money on the line, a lot of things we only dream of today are going to become realities.

There are a lot of very good brains on our LTF research staff today. All they need to break through the barrier to great accomplishments that will be most beneficial to all of us is a decent budget. Let's say a million dollars a year and I think I could promise you that they could feed us the techniques of improvement far faster than we could absorb them.

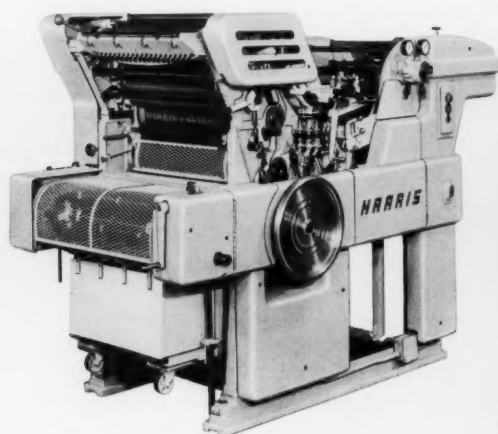
This thinking brings us sharply
(Continued on Page 108)

From an address delivered before the Southern Graphic Arts Association, Louisville, May 21, 1958.

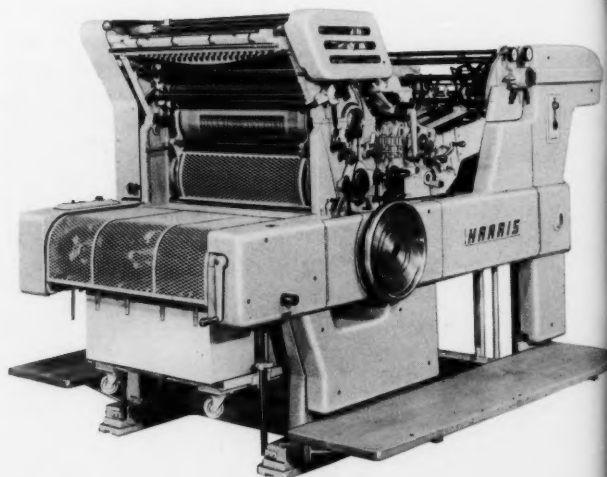
HARRIS HAS THE PRESS SIZE YOU NEED



Harris Model 120—14½ x 20½"



Harris Model 122—17½ x 22½"



Harris Model 130—23 x 30"

Now with our newest addition . . .
the 20 x 26" press . . . you can have the press size
that best meets your needs

With this new single-color 20 x 26" press you can produce 6 x 9" booklets 8 up.
You can handle 8½ x 11" and 9 x 12" bleed pages 4 up. It will also print bleed covers for
your 6 x 9" and 9 x 12" work. This press has many advantages of larger Harris presses . . .
plus speeds up to 8,000 iph.

No matter how varied your jobs, there's a Harris press size to fit your sheet-size
requirements most profitably. We'd like to help you analyze your real press needs.
We can be completely objective . . . because whatever size best meets your
present and future needs . . . we've GOT it. It won't be too big (and too costly).
It won't be too small (and falsely appear more economical). It will be exactly right.

Your Harris representative will welcome an opportunity to help you evaluate
your present equipment in terms of your requirements. Write to . . .

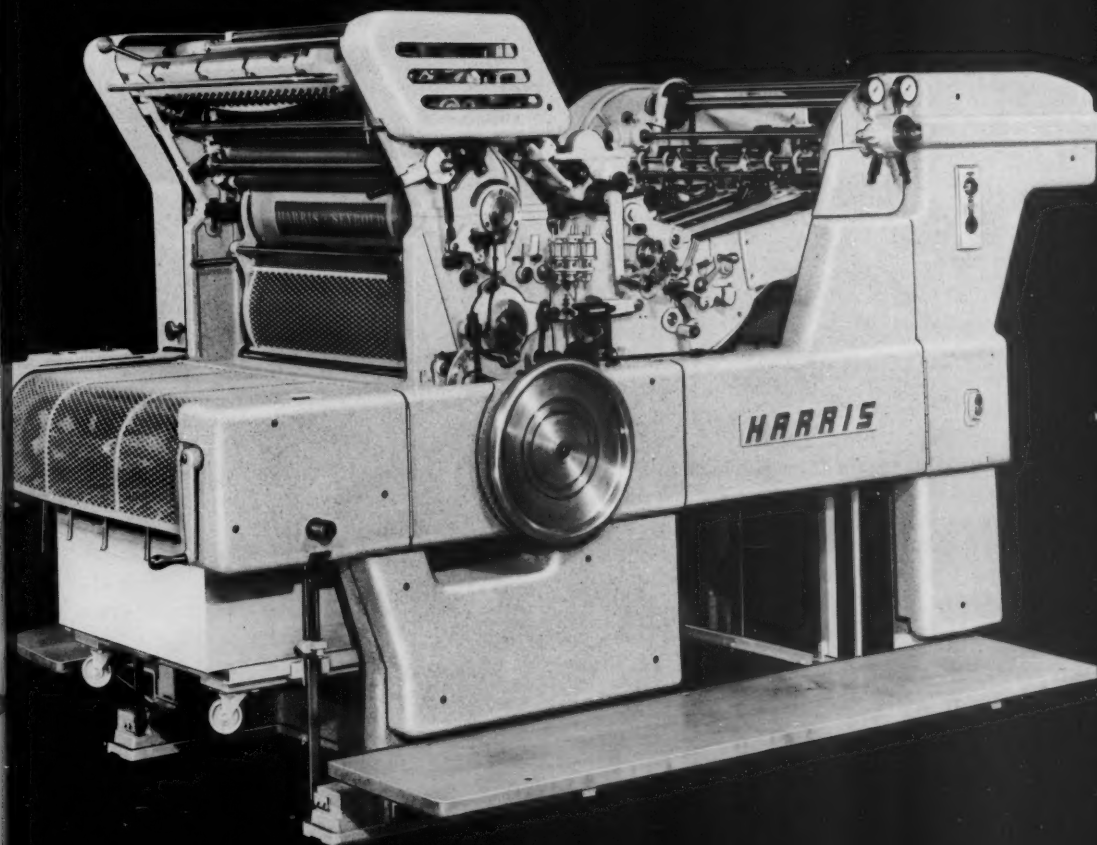


HARRIS-SEYBOLD COMPANY

A Division of Harris-Intertype Corporation

4510 East 71st Street, Cleveland 5, Ohio

LITHO IN U.S.A. ON A HARRIS OFFSET PRESS



NEW
HARRIS
20
X
26
OFFSET
PRESS

MORE and more lithographers have come to realize that adequate, well distributed light is important to good seeing, and necessary to high production efficiency and high quality standards.

Progressive plants and shops in fact use the most modern illumination equipment, including fluorescent lighting. Adequate light, from any source, means light of the correct intensity, no shadows and no glare.

Acceptable Standards

The Illuminating Engineering Society (IES) has worked out acceptable standards for illumination levels. The figures recommend minimum standards for industrial interiors. They refer to the general lighting, or lighting throughout the total area involved as measured on a horizontal plane 30 inches above the floor.

Light is measured by the foot-candle-meter or illuminometer, an inexpensive instrument, easy to handle. One foot-candle is the amount of light illuminating a surface by a standard candle at one foot distance. Determining the exact amount of light required for industrial work should be estimated only by an expert using accurate measuring tools. Trained technicians need scientific instruments.

The IES recommends for the lithographer's activity illumination levels above 100 foot-candles. To provide illumination of this order, a combination of at least 20 foot-candles of general lighting plus specialized supplementary lighting is necessary.

Light acts as a magnifier of small details. An object must be about twice as large to be visible under one foot-candle of light as it would have to be under 100 foot-candles. One hundred foot-candles is approximately one per cent of maximum daylight. Bench work generally is harder on the eyes than reading, therefore, much more light is needed.

Here are some more figures provided by the IES.

| PHOTO ENGRAVING | FOOT-CANDLES REQUIRED |
|---------------------------------|--------------------------|
| Etching staging | 20 |
| Blocking | 30 |
| Routing, finishing, proofing .. | 50-100 |
| Tint laying | 100+ |

PRINTING AND LITHO PLANTS

| | |
|-----------------------|------|
| Presses | 30 |
| Proofreading | 100+ |
| Imposing stones | 100+ |

Design and installation of combined illumination not only must provide a sufficient amount of light but also glareless diffusion without objectionable shadows.

Fluorescent Lighting

Fluorescent lighting has a very high overall efficiency and provides improved quality of light closely approaching daylight. Its efficiency is more than twice that of incandescent lighting. Fluorescent lighting is less sensitive to voltage fluctuations which cause eyestrain. Its lower temperature gives a greater degree of comfort where work close to the light source itself is needed.

For rough drawing and sketching, 30 foot-candles are necessary; for prolonged close work, drafting and designing in detail, 50 foot-candles. For very fine tools and close inspection of negatives and plates, an illumination level above 100 foot-candles is needed.

Good illumination alone may not be sufficient. The individual case must be considered. A lithographer, 32 years of age, suffered from repeated headaches in the late afternoon which noticeably reduced his working efficiency. He looked everywhere for the cause of the disturbance—a previous sinus trouble, too little sleep, faulty eating habits and fatigue after long hours of work.

Eventually an eye doctor found out that the lithographer's eyes were affected by astigmatism; the axis of

some thoughts on



LIGHTING

for the litho shop

By Dr. W. Schweisheimer

Rye, New York

his eyes was directed sidewise. The doctor prescribed glasses, and the headaches ceased immediately. Well-fitted glasses make many complaints connected with bad vision disappear.

Today, many more men of advanced years are active as lithographers, because of the increased average length of life. Usually between the ages 45 to 50, presbyopia (old sight) begins to appear. It is a normal change due chiefly to gradual loss of the elasticity of the lens of the eye. Persons with old sight require good illumination since this produces a contraction of the pupils and temporarily improves the vision.

Many of these highly skilled older persons can continue to perform with utmost efficiency if they have glasses or if their eyes are assisted by better illumination.

Regular Lamp Maintenance

Advantages from improved lamp performance are nullified if the lamps are permitted to collect dust and dirt without periodic cleaning. Plant housekeeping is an important factor in good lighting.

However, many lighting installations are cleaned only as lamps fail. Such negligence may not be so serious with an incandescent lamp which collects only 1,000 hours (one to three months) dust. It is much more important, however, when a fluorescent lamp collects 2,000 hours dust or when a cold cathode tube collects as many as 8,000 or even 10,000 hours dust (six to eight months).

In a survey of an industrial fluo-

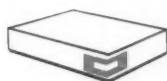
(Continued on Page 109)



This advertisement printed on Franklin Index. Basis 25% x 30% - 180M.

UNION-CAMP

a big new name in fine papers



Distinctive is the word for the new "Franklin" line of fine papers now being produced by Union-Camp. Present grades: White Index, White Tag, Amber Tag, Cream Postcard and White Vellum Bristol. More are on the way.

Sample these new "Franklin" grades soon. They're suitable for offset and letterpress work. For sizes and weights call your local Union-Camp fine papers distributor.

UNION BAG-CAMP PAPER CORPORATION Fine Paper Division, Franklin, Virginia



Newly elected officers of Web Offset Section, PIA (l-r.) James R. Bowler, Courier-Citizen Co., Lowell, Mass., secretary; James N. Johnson, Standard Publishing Co., Cincinnati, president; Paul Lyle, Western Printing and Lithographing Co., Racine, vice-president; and Fred Best, Canadian Printing and Lithographing Co., Montreal, treasurer.

By H. H. Slawson
Chicago Correspondent



Web Offset Group Foresees Big Gains

WEB offset is on the threshold of tremendous expansion as an accepted printing medium, Donald R. French, president of PIA's web-offset section, predicted in opening the section's fifth annual meeting in Chicago, June 5. Mr. French, an executive of Danner Press, Canton, O., pointed to the advance registration list as indication of the growing countryside interest in web-offset. At last year's meetings, he said, total registration was only 137. This year the advance registration listed more than 160 and more persons came in after the meeting opened at the Edgewater Beach hotel.

Winfred R. Isom, vice president of R. R. Donnelley & Sons Co., in the keynote address, declared that web-offset "is at the crossroads of success and two decades from now will be so far ahead we won't believe our story as of today. We'll be calling this our 'dark ages'."

Mr. Isom, who had been resident manager of Donnelley's Crawfordsville, Ind., offset plant, was recently

reassigned to the Willard, O., plant as director of manufacturing. Among other figures which he cited to indicate the solid position of web-offset, he said that in 1957, 17 printing firms reported they had run 59,912 tons of paper stock on their web equipment.

Lesson of Gravure

In charting the future course of web-offset, Mr. Isom said, what happened in the gravure printing field could well be a guide. Back in the early 1930's the upsurge in roto-gravure printing was the talk of the printing world. Based on the claim of low production costs for long runs, roto-gravure made great strides in obtaining an impressive share of the market. But sales expanded faster than the know-how and training in the needed skills.

Then came heat-set inks which gave new life to the older printing processes. Letterpress printing with the new inks caught fire in the magazine and catalog fields and progressed as

plates, paper, presses and inks were improved. Because of lower production costs, buyers had been willing to try gravure, he said, but on the score of quality they soon switched to other processes, especially in the publication field.

"Gravure printers," said Mr. Isom, "failed to develop their process technically and to equip themselves with the skills and know-how necessary to success. Gravure quality is showing steady improvement. They're making progress but mainly, now, in the label field, and it's going to take years to regain the prestige which gravure originally enjoyed. We, as web-offset printers, must not let this happen to us."

Mr. Isom, incidentally, started with Donnelley's as an apprentice roto-gravure printer and was later foreman, then superintendent of his company's roto-gravure department. This, he said, "was in the days when speed came first and quality was forgotten."

Continuing, Mr. Isom told of examining an exhibit of 21 advertisements in 21 different publications. "There were 21 variations in the colors," he said.

Two Advantages

Web-offset, he said, has two outstanding advantages—low cost plates and short makeready. It makes possible high production volume at low

unit cost and the color is unvarying to the end of the run. Among other advantages he mentioned plenty of color with sharp definition; good register; clean signatures; photographic quality of illustrations; sharp, uniform type reproduction and no blurred spots.

Speaking of production speeds, he said it is desirable to find the optimum speed on a given press. But, he added, "Never be satisfied with the top cruising speed on any press. If there is trouble, search constantly for the cause, correct it and continue. That's progress."

In the past, Mr. Isom said, too many printers have treated the technical end of their business as an art, instead of a science, which is the true foundation of progress.

"There are signs that we are waking up to the bugs in our business," he remarked as he turned to an examination of some of the soft spots in web-offset printing. One thing we need, he said, is the ability to place the same thickness of film on a plate hour after hour. In gravure, he pointed out, ink control is a must but in offset, and in letterpress as well, ink control is a somewhat hit or miss matter.

"We still don't know much about tension," he went on, "and, if we did, we still would not have the needed mechanism to apply it. We still have a long way to go on the problem of plate cracking, on improvement of folders, blankets, use of power. These and other things we must know if we are to continue in operation. Otherwise we will die."

The entire printing industry, Mr. Isom asserted, needs more smart young men and in the web printing

field there is unsurpassed opportunity for ambitious men with brain power. In the years ahead they can be certain that they will advance rapidly.

He commended the industry's suppliers, who "over the years have done an excellent job for us." But web-offset, he said, "is a tough competitive market. We're all pleased with the new products our suppliers have provided and the improvements they have made in the old. The suppliers must continue to progress and we will look to them to do their share in our quest for bigger and better markets."

Quality Stressed

Richard Dunbar of Inland Press, Chicago, who followed Mr. Isom, declared that the recent phenomenal growth of web-offset is little known and unappreciated by outsiders. He outlined his company's experiences with web-offset and told how at the start the sales department "played down" quality and sold on the economy theme. Then came the competition, he said, "which forced us to get out and hard sell our products on better quality and flexibility."

Mr. Dunbar substituted for James Armitage, head of his company, who at the time was confined to a hospital for treatment of a temporary disability. The key to future expansion of offset, he asserted, is development of "an imaginative, creative and aggressive sales force."

"It all depends on the salesman," he said. "We must stimulate his imagination and ground him on the things that can be done on the web press." Such proper training, he emphasized, is the responsibility of management. Company heads must

authorize the time and money for trying out new ideas and techniques. They must keep the sales staff versed in new techniques and they must exert pressure on equipment manufacturers to get improvements.

Carl Denman, vice president, sales, for World Color Printing Co., St. Louis, told how his company had operated as a letterpress firm for 35 years, then got into web-offset when the need for diversification became urgent.

The final decision, he said, was based on a survey which, among other factors, weighed the growing national market for directories, catalogs, books, magazines, etc. This was balanced against the company's strategic geographic location near the center of this market. Within a year and a half, he said, World Color Printing Co. has erected four web-offset units, "and we feel we are doing a good job both in production and sales."

One important requirement, Mr. Denman said, is to know what type of products your equipment can best turn out. "This is the day of the hard sell," he said, "and there is no short cut. Emphasize what your equipment and your skills can best handle and it will bring increased volume in satisfying quantities."

R. C. Fields, superintendent of the Donnelley offset plant at Crawfordsville, Ind., outlined the problems encountered in converting production of Compton's Encyclopedia and the Encyclopedia Britannica from letterpress to offset production. In such conversions, he stressed, the thing to bear in mind is that the new product must be better than the last letterpress printing. Eventually, he stated, both encyclopedias are expected to be an all-offset job.

Chas. Rosenfelder, also from the Donnelley plant at Crawfordsville, Ind., where he is superintendent of the offset department, offered the rule "keep it running," as the key to profitable web-offset operations. Any rotary press which is standing still, he remarked, is expensive. Reviewing plate and roller wear and other technical factors, he pointed

(Continued on Page 121)

Audience at Web Offset Section hears review of problems in sales and production.



Balanced Process Inks

By Dr. Paul J. Hartsuch

Lithographic Consultant
Printing Ink Division
Interchemical Corp.

THE term "balanced offset process inks" has been coined to describe a set of process inks which can be color-corrected with single stage (positive) photographic masking.

In order to understand how the choice of the shades of process inks enters into the photographic masking picture, let's start at the beginning with how a cameraman sets about to make a set of color separations. He photographs the colored picture through a red filter, again through a green filter, and again, through a blue filter. Then he usually photographs a fourth time to make his black printer negative, but this may be done in a variety of ways.

These color separation negatives are color-corrected, screened and printing plates are made from the screened positives. The printing plates are printed with inks which are more or less the complementary color of the filter. Thus the blue filter negative may be called the yellow printer negative, since yellow is the complementary color to blue. The green filter negative may be called the magenta printer negative, since magenta is the complementary color to green. Some cameramen call this the "red" printer negative, but we will use the correct name, magenta. Finally, the red filter negative may be called the cyan printer negative, since cyan is the complementary

color to red. We will call it the cyan printer negative, and will not use the term "blue printer" or "process blue printer."

Rule of Three

Each of these color separation negatives should print in three of the six principal colors, and should not print in the other three. This is called the "rule of three." The following table illustrates this:

| NEGATIVE | SHOULD PRINT IN | SHOULD NOT PRINT IN |
|-----------------|--------------------|----------------------|
| yellow printer | yellow, green, red | magenta, blue, cyan |
| magenta printer | magenta, blue, red | cyan, green, yellow |
| cyan printer | cyan, blue, green | yellow, red, magenta |

Certainly the yellow printer must print in areas which are yellow in the original copy. It must also print in areas which are red in the original copy, since red is obtained by printing magenta over yellow. The yellow printer must also print in areas which are green in the original copy, since green is obtained by printing cyan over yellow. Equally important are the areas in which yellow should not print. We do not want any yellow to print in areas in the original copy which are magenta, blue or cyan in color. It is in these areas where many of the problems of color correction arise.

In order to keep this as simple as possible, let's assume that we are photographing color patches of a yellow, magenta and cyan ink. We will photograph these patches through the "A-B-C" filters, using the 25 for the red filter, the 58 for the green filter and the 47 for the blue filter.

Yellow Printer Negative

Now let's focus our attention on the negative made with the blue filter. This is the yellow printer negative. The blue filter absorbs most of the light which is reflected from the patch of yellow ink, so the negative is almost clear or transparent in this area. The light from the white paper in between the ink patches goes through the blue filter, and this area is almost black on the negative. If the colored filters were perfect, which they are not, and if the magenta

Dr. Hartsuch was associated with the research department of the Lithographic Technical Foundation for five years, as supervisor of the Metals and Surface Chemistry division. Since 1950 he has been a lithographic consultant for the Printing Ink Division of Interchemical Corporation (IPI). In this position, he has been active in the platemaking field, especially with the IPI tri-metal plates. More recently, he has been engaged in research work in the field of lithographic inks. One of the results of this work has been the development of "balanced offset process inks," which are designed to simplify the photographic masking steps. "Doc" is also the author of the book CHEMISTRY OF LITHOGRAPHY which was published a few years ago by LTF.

and cyan inks were perfect, which they are not, the magenta and cyan ink patches would photograph on the negative as black as the white paper photographs. In actual practice, the magenta ink patch photographs as a light gray on the negative, and the cyan ink patch photographs as a darker gray. This occurs whether the inks which are photographed are "balanced" or not.

If a screened positive is made from this yellow printer negative, with no color correction, it would show perhaps a 50 per cent dot in the magenta area, and perhaps a 10 or 15 per cent dot in the cyan area. If a printing plate were made from this screened positive, and printed with yellow printing ink, there would be a considerable amount of yellow printing in the area of the magenta ink patch, and a small amount of yellow printing in the area of the cyan ink patch. These are areas in which no yellow ink should print (see table "Rule of Three").

This means that the yellow printer negative must be corrected by some method to remove the yellow from the magenta and cyan ink patch areas. In single stage masking, an attempt at correction is made by making a reduced strength positive from the magenta printer negative, and placing it over the yellow printer negative in register. When this positive mask from the magenta printer negative is made of the right "mask strength," it is always possible to correct the error in either the magenta or the cyan ink patch areas. But with the ordinary set of process inks, when this mask is made of the correct strength to correct the error in, say, the magenta ink patch area, then the cyan ink patch area is either undercorrected, or overcorrected.

Need for Balanced Inks

Here is where the idea of "balanced inks" comes in. It was desired to adjust the shades and the cleanliness of the magenta and cyan inks so that one positive mask made from the magenta printer negative would correct the errors of both the cyan and magenta ink patches in the yellow printer negative, without undercorrecting or overcorrecting either one. To say it another way, the positive from the magenta printer negative adds silver density to the magenta and cyan ink patch areas. It was desired to adjust the inks so that the proper strength of positive mask would bring up the density of silver in the magenta and cyan areas so they would be equal to each other in density, and also equal to the density of silver in the white paper areas of the negative.

To solve this problem, a series of magenta inks with varying shades and cleanliness was prepared. Likewise, a series of cyan inks with varying shades and cleanliness was prepared. Proofs of these special inks were analyzed at the Lithographic Technical Foundation research laboratory, using reflection density readings obtained with a Welch Densichron equipped with the same red, green and blue filters previously mentioned. From these density readings it was possible to calculate the necessary masking factors, in the manner described by Preucil (*"The LTF Color Chart,"* pages 21-23, 32-33; Lithographic Technical Foundation, 131 E. 39th St., New York 16.)

At this point, it seemed that one of the magentas should "balance" with a particular one of the cyans. Then a second magenta apparently "balanced" with a second cyan, and a third magenta with a third cyan. In this way it was possible to establish three series of "balanced offset process inks." These are now called Series I, II, and III.

Proofs of the Series III set of balanced inks were prepared, and submitted to LTF for actual photographic color correction with single-stage masking. The ink proofs were photographed through each of the three colored filters. When the positive mask from the magenta printer negative was made at the right "mask strength," and placed in register over the yellow printer negative, it corrected the errors in the magenta and cyan areas almost perfectly. Since this time, the same thing has been done with the Series I and Series II balanced inks in two different lithographic plants.

So far the discussion has centered around the correction which is necessary for the yellow printer negative. The other two color separation negatives must be color-corrected also, but this is a simpler matter since only one ink error is involved in each one, and the cleanliness of the balanced inks reduces the amount of color correction which is needed. Thus, to correct the error of the cyan ink in the magenta printer negative, a positive mask is made from the cyan printer negative. The cyan printer negative does not require much correction, if the process inks used are "clean" and of the right shade. Preucil of LTF uses a mask from the black printer negative to correct the cyan printer negative, mainly to produce a set of color-corrected negatives which have good gray balance. His method is described in *THE LTF COLOR CHART*, Bulletin No. 320, pages 23-24.

Hand Correction Still Needed

While the use of a set of balanced offset process inks will simplify the photographic masking which is required to color-correct the negatives, it is not to be implied that all hand correction work can be eliminated. It is asking a lot of a set of inks to have them eliminate all of the problems connected with making a good set of color separations. However, there is definite evidence that the use of a set of balanced inks has decreased the amount of hand work by a considerable amount.

The question now arises: "Why three sets of balanced inks?" Part of the answer lies in the cost of the inks, particularly the magenta. The magenta used in the Series I inks is very clean and transparent, but is fairly expensive. The magenta used in the Series III inks is not quite as clean or transparent, but is not as expensive. The Series II magenta has qualities lying in between the other two.

Another difference in the three series of balanced inks is in the "mask strength" which is needed for the positive from the magenta printer negative to correct the yellow printer negative. The errors in the yellow printer negative can be corrected with a 37-39 per cent mask with the

(Continued on Page 122)

PRODUCTION CLINIC

By Theodore Makarius



Gloss Inks and Overprint Varnish

In answer to many requests for an article on gloss inks and overprint varnish, I have asked Warren F. Douglass, vice president, research, and Philip T. Pope, treasurer of Pope & Gray, Inc., to write the following article, which, in my opinion, gives a very clear explanation of the use and application of overprint varnish and gloss inks in the lithographic pressroom.—T.F.M.

IN the early 1900's, before the advent of packaging and advertising as we know it today, the art of printing, as related to the label and packaging field, was limited to the use of conventional inks composed of pigments dispersed in litho varnish. This type of ink left much to be desired because although it was decorative, it did not have gloss properties nor did it afford protection of any sort to the printed surface.

Up to and including this period, many attempts had been made to produce either vehicles from which inks having gloss could be made, or a clear varnish which could be applied by conventional printing presses over conventional inks, resulting in a glossy surface. This was not possible with ordinary bodied linseed oil, because of its penetrating properties. It was found that by combining natural resins, such as Copal or Dammar, with linseed oil and various solvents, inks and varnishes could be fabricated with a fair degree of gloss. This

type of formulation did have a serious drawback however. The high percentage of resin and solvent necessary to obtain gloss gave poor working properties on the press, in that the ink or varnish gathered tack to the point of becoming unprintable.

In the early 1920's, the introduction of synthetic resins, such as the modified phenolics and modified maleics, permitted the inkmaker to make substantial improvements. The ink and varnish makers found that by combining the modified phenolic and maleic resins with linseed and other vegetable drying oils, they could make oleoresinous vehicles which, when made into inks, would have what was considered excellent gloss on the types of paper stock available at the time.

The efforts of the inkmaker to use these new materials caused a change in two closely allied fields—paper and pigments. It was discovered that even with the new gloss materials, satisfactory gloss was not obtained with every type of pigment. The pigment manufacturers were, therefore, faced with the problem of improving their product and its properties. Foremost, improvement was needed in the surface properties affecting wetting, grinding or ease of dispersion, flow and bronzing.

Through their efforts, the majority of pigments being produced today are satisfactory for their gloss properties, with further improvements evident in

their solvent and chemical resistance, alkali resistance, heat resistance, lack of toxicity, etc.

At the same time, paper manufacturers improved the gloss hold-up properties of their coatings. Improvements were necessary because the porosity, sizing, calendering and the nature of the coating used on the body stock has a considerable effect on the degree of gloss obtainable. A soft, porous stock naturally would allow an ink to set-in with a subsequent loss of gloss.

Through the combined efforts of the paper and ink manufacturers, new coatings were developed upon which ink films could be applied and a high gloss obtained. This was true for both paper and paper board. More recently there has been introduced a grade of paper known as "cast-coated" which, contrary to conventional coated paper, is extremely porous but has a high degree of surface gloss. This paper gives extremely rapid setting of the ink film, as well as excellent gloss with transparent inks. Cast-coated paper is particularly useful where it is desired to have the unprinted surface of the stock equal the gloss of the printed portion.

During the time that inkmakers were concentrating on gloss inks, they were also applying the same principles to the clear varnish field. They were attempting to duplicate on conventional printing presses the clear gloss coatings obtained on roller coat-

ing machines. This was an important undertaking in the graphic arts, since it allowed all printers equal opportunity to complete work on their regular equipment, which formerly had to be sent to finishers.

Modern Gloss Materials

As can be seen from this brief history of the development of gloss materials, a great new field was opened to the graphic arts industry, particularly in the packaging field, making it possible to produce better labels and folding cartons. Among the many advantages is the ability to attract the attention of the consumer, protection of the package appearance in transit due to better rub resistance, protection of the product from moisture, alkali and chemicals, grease, etc., as well as from the product itself through handling with wet hands or spillage.

We can classify the present-day gloss materials as gloss grinding and mixing varnishes for the inkmakers' use, and as overprint varnishes for use directly by the printer.

Gloss grinding varnishes are vehicles composed of carefully selected synthetic resins combined with various vegetable drying oils to give vehicles which, when ground with pigments, will form the basic toners from which gloss inks may be formulated. This type of varnish must have proper wetting and dispersion characteristics, good drying, resistance to alkali or acid, and water resistance for lithographic purposes, all of which are as important to a successful gloss ink as gloss itself.

Gloss mixing varnishes are vehicles which are used in conjunction with the gloss base toner, as described above, or with ordinary linseed oil based toners. These mixtures, when formulated with the proper driers and other additions, and printed on suitable paper stock, will produce prints having a high degree of gloss. The mixing varnishes are admixtures of carefully selected hard resins, such as modified phenolic or maleic, combined with various vegetable drying oils, or their combinations.

These materials are formulated or cooked together to obtain viscous ve-

hicles, again with thought given to proper pigment wetting, resistance, drying and, of course, gloss. Some theories have been advanced that a good gloss vehicle must contain a resin having limited solubility in the oil in which it is being used in order to obtain proper gloss hold-out.

Gloss overprint varnishes are clear gloss materials printed in the same manner as gloss inks but, being clear, are printed over conventional inks for their decorative and protective properties. Overprint varnishes are formulated from hard synthetic resins combined with the various vegetable drying oils and proper solvents, along with suitable compounds and driers.

Unlike gloss ink vehicles, pigment wetting is no longer a factor. Instead, great care must be used in selecting the ingredients to obtain proper gloss, drying, color and color retention, water resistance, odor, freedom from blocking, and stability on the press. Although great strides have been made in the overprint varnish field, there is still much left to be desired, particularly in recent years since the introduction of myriads of new film-forming materials.

Within the family of inkmakers, the formulation of gloss materials still is considered an art and very little information is divulged. However, information as to the use and application of gloss products is readily supplied.

Types of Overprint Varnish

The lithographer has available two basic types of overprint varnish: the wax type and the non-wax type. Non-wax overprint varnish, as the name indicates, should be used on any work which must be imprinted or overprinted after the varnish is dry. Generally, the use of this type of varnish is confined to work which must be overprinted, since the wax type has both better scuff-proofness and quicker drying in the pile.

In the last few years, leading overprint varnish manufacturers have developed several important modifications of the wax type overprint varnish. The first important improvement was the slip type of varnish, which has better scuff-proofness and

is generally recommended for labels or folding cartons, where rough handling must be anticipated.

In the last few years, improvements have been made in the color of overprint varnish. Materials are now available which have definitely lighter initial color and show less tendency to yellow on ageing than the normal non-wax or wax-containing varnishes which previously were used.

Several special types of overprint varnish also are available. You can obtain a dull varnish which will give protection to a cover or mailing piece and still have a velvety appearance. A non-skid overprint varnish also is available for use on very small labels, or on covers, where skidding of the flat sheets in the cutting room or bindery has been troublesome.

Since overprint varnishes contain drying oils and solvents, a certain amount of odor is generated in the pile as the varnish dries. This odor normally is dissipated when the sheets are wound, or during the bindery operations. For food-package inserts, gum wrappers and other applications requiring an odorless product, it may be necessary to run a moisture-set type of overprint varnish. This is the only overprint varnish which can not be run with a wet plate.

Handling Varnish

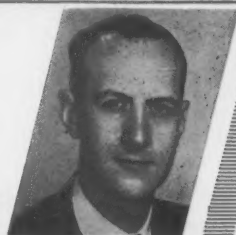
The leading varnish manufacturers have overprint varnish available in a range of bodies, or viscosities. The heaviest body which can be run will, of course, depend on the stock and the size of the press. With a heavier-bodied varnish, a thicker film can be run and this, of course, gives better gloss. In addition, the heavier varnishes show less tendency to penetrate on soft coated papers or boards.

In order to get a varnish which will stand up with a good gloss on coated paper, it is necessary to make a material which will dry in from two to three hours in the pile. This means that the varnish generally will skin faster in the fountain than a normal lithographic ink where rapid pile-drying is not required. Because of this condition, most lithographers

(Continued on Page 113)

PHOTOGRAPHIC CLINIC

By Herbert P. Paschel
Graphic Arts Consultant



First report on an electronic flash lamp for litho:

Pulsed Xenon Arc

INQUIRIES to this column have indicated considerable interest in the electronic flash lamp for graphic arts use. Although such lamps have been used in certain photo-mechanical applications, a host of shortcomings obviate their general use.

Experience with the Xenon flash discharge lamp revealed a light output comparable to sunlight in quality. Other desirable qualities led illumination engineers to investigate the potentials of Xenon filled discharge lamps both here and abroad. Gaseous discharge lamps can be operated as an almost continuous source and, as in the case of the flash tubes, intermittently, at extreme high intensity. Somewhere between these two extremes is the Pulsed Xenon Arc (PXA, for short) recently announced by the lamp division of the General Electric Company at Nela Park.

The basic PXA lamp is a quartz tube less than a half inch in diameter and filled with the rare gas Xenon. Four sizes are available in usable light lengths of 3, 12, 24 and 36 inches. A high density current is passed through the tube 120 times each second (on a 60-cycle power supply) resulting in a series of intensive flashes of about one-thousandth second duration. Lights of this type are not suitable for exposures of less than a second since the light is off more than it is on and extremely short exposures could

occur at different moments in the cycle, thus resulting in a variety of exposure values. But this is of no great concern in the graphic arts field since most exposures are on the order of several seconds at the very least.

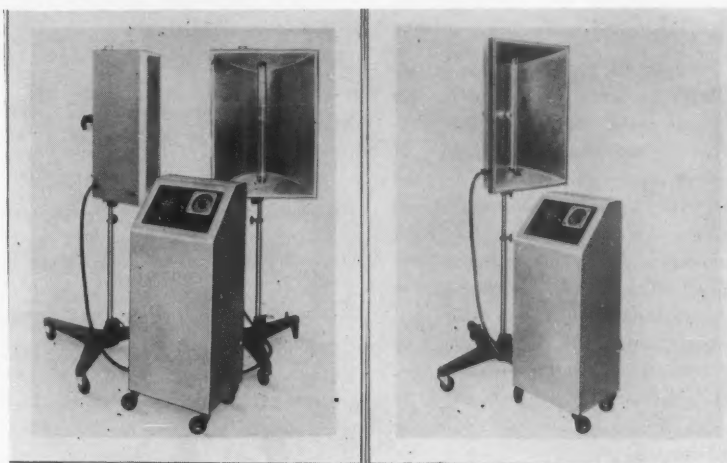
New Power Pack

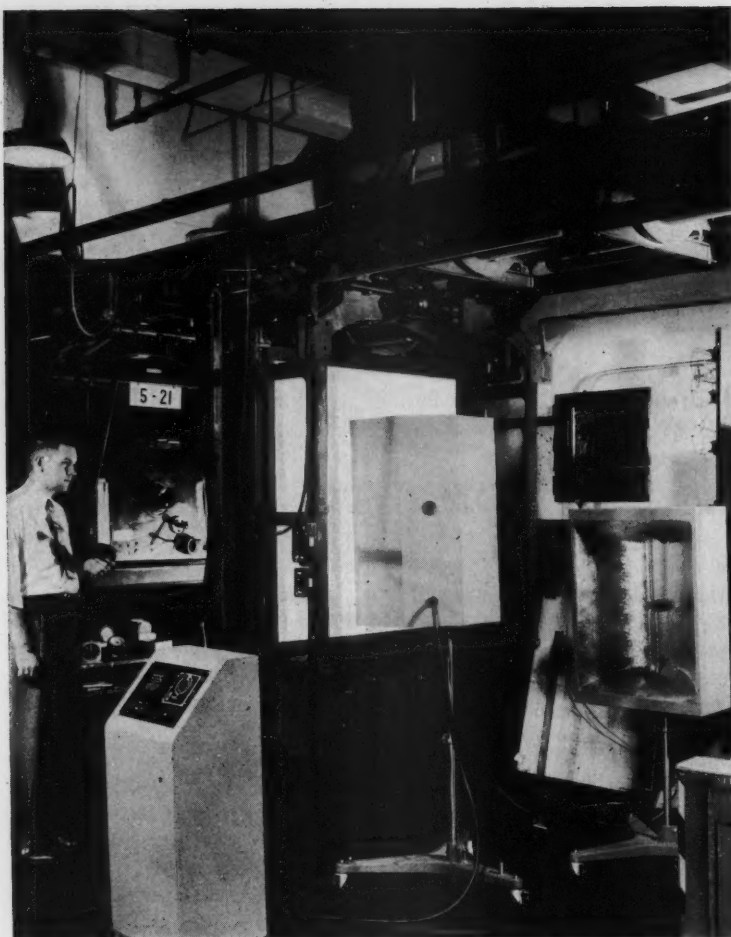
A radically new power pack, without which the performance efficiency of the tube would be impossible, was also developed by G.E. at Nela Park. This unique ballast combines a supply transformer, saturable reactor and capacitor in one unit with no moving parts or vacuum tubes included in it.

Despite the alternate periods of light and dark, the lamp appears to burn continuously because the eye integrates the rapid pulses. A slight stroboscopic effect is nevertheless noticeable.

Coincident with the introduction of the PXA lamp, American Speedlight Corporation (63-01 Metropolitan Ave., Middle Village 79, N. Y.) announced a new line of graphic arts lighting equipment utilizing the GE lamp and power circuit. Ascorlux light units come in three models: the 24" tube in a 20 x 24" reflector, a 28 x 36" reflector housing a 36"

Ascorlux B1108 power supply (left) with two L1101 light units as used for normal copyboard work. Because this power supply has a dual channel it is possible to use two or one light units as illustrated in photo at right. In this case the same power supply and one L1101 light unit may be used for photo composing, small size plate burning or transmitted separation work.





Calvin W. Shaw, quality control department, Western Printing and Lithographing Co., Poughkeepsie, N. Y., operates the Ascorlux Pulsed Xenon Arc equipment. Light unit on test here is being used to make screened positives from color separations through a Lanston Monotype overhead camera.

tube, and a 4 x 4" grid for enlarger use. Individual power supply units for each of the above, and a dual power assembly for operating two 24" or two 36" lamps are available.

Light Combinations

With the latter, two lamps or just a single lamp may be operated. Appropriate combinations of light and power supply are possible for the majority of graphic arts applications. In the Ascor equipment the PXA lamp is enclosed within a Pyrex glass sleeve which provides a channel for forced draft cooling and also protects the lamp itself. Ascor lights may be operated in any position—vertically, horizontally or overhead.

Published specifications reveal the following figures:

1. High output.
2. A well balanced spectral distribution in the visible spectrum plus ultra-violet and infra-red.
3. Instant starting.
4. Clean operating (no fumes or dust).
5. Minimum temperature rise (with simple forced draft cooling).

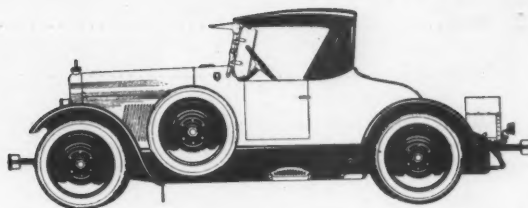
6. Uniform and consistent light output (no light integrator exposure controls necessary).
7. Convenient size adaptable to high efficiency reflectors.
8. Low power factors.
9. Low maintenance costs.

Satisfactory performance has been obtained in line, halftone and color separation photography, platemaking (vacuum frames and step-and-repeat machines), and for exposing blueprint, silverprint, and diazo materials. According to Harry L. Parker, president of American Speedlight Corp., limited tests under actual shop conditions in plants around the country revealed some startling operating comparisons. In one case, involving color separations, Ascorlux equipment accomplished the job (a set of color separations) in one-third of the time and with only 10 per cent of the power cost of conventional lights. Screened positives from the same negatives were made in 10 per cent of the previous exposure time with a power saving—more than 65 per cent. Deep-etch plate exposures on a photo-composing machine indicated a saving of about 38 per cent in exposure time and a power saving of 50 per cent. The figures cited were compiled from comparative tests at Western Printing and Lithographing Co., Poughkeepsie, N. Y.

If the inherent promise of long looked for lighting characteristics offered by the PXA lamp is realized in extended production use, the Xenon gas arc may soon become the standard graphic arts light source.

For camera use, a complete Ascorlux set up costs about \$3,500, while for vacuum frame and step-and-repeat the figure is about \$2,100.★

It is impossible for Mr. Paschel to give personal replies by mail, but all questions will be answered in this column as soon after receipt as possible. The columnist also is available to the trade as a consultant for more complex litho problems.



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TECHNICAL SECTION



At 10th anniversary convention

TAGA Discusses Process Color

CELEBRATING its 10th anniversary, the Technical Association of the Graphic Arts met in Los Angeles late last month to hear a variety of technical papers, many of them having to do with the problems involved in printing process color.

The sessions were held in the Beverly Hilton Hotel, June 23-24. A complete report was not available at presstime, but following are abstracts of some of the papers presented at the meeting. The papers fell into three categories: preparatory equipment and methods, color, and testing and control.

THE LOGETRON, *Dwin R. Craig*

The LogEtron, "A scanning, servo-modulated light source for photographic reproduction," is the nucleus of a line of equipment capable of both automatic dodging (unsharp masking) and automatic exposure control. These two functions, performed by inverse feedback from a pair of phototubes to the cathode-ray tube light source, independently control both relative and absolute densities of continuous tone reproductions obtained in a one-step exposure. The resulting D-LogE curves, for varying amounts of feedback, illustrate the nature and effect of feedback while microdensitometer traces depict the compression of "gross" contrast plus expansion of "detail" contrast—both terms being

defined relative to dimensions of the scanning beam.

ELECTRONIC HALFTONE CAMERA, *S. W. Levine*

An electronic halftone camera, which views either a transparency or an opaque photographic image and reproduces this information in halftone form, is described. A schematic diagram of the entire machine is given and the dot-producing electro-optical transducer is described in detail. Examples of work accomplished with this camera are presented and potential applications are discussed.

CHILDRESS PROCESS OF CORRECT TONAL REPRODUCTION, *Clyde Childress and Herbert Meyer*

The density-log exposure curve of normal black and white silver halide emulsions is composed of a straight-line section of desired contrast (normal exposure range) bordered on each end by a curved section of insufficient contrast (under- and over-exposure). The fact that both negative and positive emulsions have these same characteristics makes it impossible to obtain perfect photographic tonal reproduction from an original without masking. Assuming the characteristic curve of the positive emulsion as unalterable, it follows that the corresponding negative material would have to be processed to a "mirror" curve to achieve correct tonal

reproduction in the final print. A film processing method which produces negatives with "mirror" curve characteristics is described with consideration of its applicability to photography.

REDUCTION OF DENSITY CHANGE BETWEEN WET AND DRY IMAGES IN CONTINUOUS TONE GRAPHIC ARTS FILMS, *Raymond Alfaya*

Wet density readings (widely used in the graphic arts industry for checking continuous-tone color-separation negatives, positives and masks) are often misleading because of density changes which take place when the films are dried. It is shown that adjustment of the fixer formula to reduce the extent and rate of emulsion hardening can substantially reduce the magnitude of wet-to-dry density change, thus increasing the reliability of wet densitometry. Controlled drying markedly improves the reproducibility of results.

IMAGEWISE ELECTROLYTIC DEPOSITION OF COPPER FOR LITHOGRAPHY, *Eugene L. Vanaver and Philip E. Tobias*

All practical bimetallic lithographic processes depend upon the etching of metal from unwanted areas. A considerable amount of thought and effort has been expended on the possibility of depositing metal during processing. A method has been de-

veloped that allows the deposition of copper as the image metal on stainless steel or aluminum base plates. The results appear to have the benefits of good tone reproduction, wear resistance and the certainty and recoverability generally associated with bimetallic lithographic plates.

A COLOR ELECTROFAX PROCESS, *J. S. Rydz and S. W. Johnson*

The "Electrofax" process for direct electrophotographic printing on paper utilizes a photoconductive coating of zinc oxide pigment dispersed in a resin binder coated on a paper base. Recent developments with colored toners have resulted in the ability to produce results in color. The basic laws governing this type of color process consisting of opaque particles such as used in electrostatic printing will be reviewed. Techniques for producing color electrofax prints will be discussed. In addition to the application of conventional color separation techniques, possible new concepts in color separation will be explored.

COMPATIBILITY OF LIGHT SOURCES FOR COMPARING COLOR PROOFS WITH TRANSPARENCIES, *Joseph Jordan*

It has been proposed that the graphic arts industry adopt a standard illuminant at a color temperature of 7400 K for color appraisal of reflection type materials, although it is acknowledged that color transparencies should be viewed by light of color temperature 3800 K, and that compatible light sources should be used for comparing proofs with transparencies. A study was made to determine the nature and extent of these differences. A transparency was viewed under 3800 K illumination, and visual matches were made between colors in the transparency and Munsell color samples. Appreciable differences were found—an average of four Munsell hue steps and two Munsell chroma steps for the colors studied. The differences between the two sets of matches are given in Munsell notation and as a display of Munsell papers for a variety of colors.

USE OF LITH-TYPE EMULSIONS FOR CONTINUOUS TONE COLOR CORREC-

TION MASKS IN TWO-STAGE MASKING FOR GRAVURE, *Harvey F. George*

The two-stage masking method of color correction offers considerable flexibility in the correction of "wanted" and "unwanted" colors. This is accomplished by placing the principal color correction masks on the toe portion of the characteristic curve. Proper color correction for the inks normally used in rotogravure publication printing require high contrast principal masks. Sensitometric tests were made of available continuous tone emulsions processed to high contrast and lith type emulsions processed for continuous tone reproduction. The lith type emulsion used in this manner shows definite advantages for rotogravure color correction as indicated on the accompanying masking reproduction curves.

THE USE OF COLOR NEGATIVES AND A PANCHROMATIC PAPER IN ROP COLOR PRINTING, *J. W. Gosling and C. A. Horton*

The advantages of color negative over color positive films for newspaper reproduction are reviewed and the mechanism of color correction in Kodak Ektacolor film is described. The properties of an experimental panchromatic paper, Kind 1439, are discussed. Recommendations are given for a reproduction system using these materials and designed specifically for ROP color printing.

THE DEPENDENCE OF THE CONTRAST OF MOIRE PATTERNS ON THE COLORS OF THE PRINTING INKS, *F. Pollak*

It is often stated that moiré patterns formed by a yellow image with one or more other images are of low contrast owing to the inherent brightness of the yellow ink. In four-color printing in particular, the contrast of the black-magenta-cyan pattern can be reduced by using a cyan with lower unwanted density to green and that of the 15° yellow-magenta pattern can be reduced by using a magenta with lower unwanted blue density. In general, if in any spectral region only one of two ink solids has any density, and if the inks are reasonably transparent, then halftone images printed with these solids can

be laid down at any angle, even in parallel.

COLOR AND TONE ERRORS OF MULTICOLOR PRESSES, *Frank Preucil*

The wet ink trapping and tone reproduction of two- and four-color lithographic presses are studied from laboratory controlled press runs, and an industry wide survey. Variables included are sets of inks of different inkometer values, different types of ink, and differences in fineness of screen ruling.

"BALANCED" OFFSET PROCESS INKS, *Paul J. Hartsuch*

The adjustment of the shades of offset process inks is described, with the view in mind of accomplishing color correction with simple single-stage (positive) masking. The requirements of such a set of "balanced" offset process inks is outlined. Three series of such balanced process inks have been developed, and are now available. One of these sets of inks apparently in balance based on measurements with a Welch Densichron was checked with a recording spectrophotometer, and also by actual photographic masking. The effect of printing a set of balanced offset process inks on uncoated paper is discussed, including hue shifts, change in cleanliness, and change in the balance for masking.

UNSOLVED PROBLEMS OF COLOR REPRODUCTION, *H. E. J. Neugebauer*

Colorimetry is an essential pillar of modern methods of color reproduction (e.g., masking methods, electronic color correctors). Although colorimetric research has been pushed to extreme accuracies, a number of problems that are of basic importance to color reproduction have hardly ever been investigated. Such problems are the effects of change of illumination, size of reproduction, frame or other surrounding, and contrast. The few existing investigations will be reported. Methods suitable for such investigations will be outlined. The photographic processes are superior to methods using a time-sequential transmission of picture elements (TV or electronic color correctors) insofar
(Continued on Page 115)

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Photography, Tone and Color Correction

***HIGHLIGHTS OF THE LTF SURVEY OF PROCESS COLOR INKS.** Frank Preucil. 9th Annual *TAGA Proceedings*, Part B, May 1957, pp. 143-152 (10 pages). An industry-wide survey with the goal of fuller understanding of lithographic color reproduction problems is reported. A 21-step test color strip printed with production runs by 170 single color, two-color, and four-color presses is studied for differences which can affect requirements of color correction. Hue purity, gray balance, trapping, additivity, proportionality and other factors are measured as variables to be considered in relating masking to color separation.

***COLOR DIFFERENTIATION IN REPRODUCTION PROCESSES.** J. A. C. Yule. 9th Annual *TAGA Proceedings*, Part A, May 1957, pp. 29-41 (13 pages). The paper describes a method of calculating how accurately small color differences between two colors in an original will be reproduced. In order to do this, the following data are required: (1) measurements of the color densities of the

individual inks, (2) information as to the way in which the multicolor print is related to the individual ink images, (3) the tone rendering of the individual ink images, (4) the characteristics of any masking method which is a part of the reproduction process. The differentiation of nearly neutral colors has been worked out for a number of typical conditions. It is shown that straight-line masks cause overcorrection of the shadows in a three-color process, owing to both additivity and proportionality failure. The effect of the black printer in destroying color differentiation in the shadows is also shown.

***A SYSTEM OF STANDARDIZED ILLUMINATION FOR COLOR VIEWING IN THE GRAPHIC ARTS.** Joseph Crossley and Joseph G. Jordan. 9th Annual *TAGA Proceedings*, Part A, May 1957, pp. 101-106 (6 pages). In order to insure consistency in comparisons and criticisms among color originals, engravers proofs, and press sheets, Springdale Laboratories developed a system of standardized illumination which has been installed for use by photographers, art editors, engravers and printers. The factors

which were studied before adopting the system were: geometry of the light source and viewing area, level of illumination, color temperature of the source, and spectral energy distribution of the source. Neither the chromaticity nor the color temperature alone is adequate as a specification of the color quality of the light. The spectral energy distribution must fulfill certain requirements, and the spectral energy distributions of transparency viewers and overhead illuminators must be approximately the same. The units which have been adopted include overhead illuminators with a combination of fluorescent and incandescent sources, giving an illumination level of 190 foot candles at the working surface at a color temperature of about 3600°K; and transparency viewers with the same type sources giving a brightness of 500 foot lamberts. Wherever these units have been installed they have been received enthusiastically and for the most critical color viewing the system is preferred to any previously used.

***ELECTRONIC COLOR SCANNING AND ENGRAVING.** Samuel W. Levine. 9th Annual *TGA Proceedings*, Part A, May 1957, pp. 107-122 (16 pages). A review is made of the activities of all known companies working on the development of electronic color scanners and electronic engravers for the graphic arts field. The work of each company is presented in some detail and the characteristics of the machines are given. A chart showing the comparative specifications of each machine is presented. In addition to electronic color scanners, the activities of the several companies working on direct electronic engraving and similar devices are reviewed.

***MORE THOUGHTS ON MASKING.** Frank H. Smith. *Modern Lithography* 25, No. 9, September 1957, pp. 51, 52, 53, 165 (4 pages). An experiment with projection masking is reviewed. The production details are followed through in masking a color transparency which will have superimposed color lettering.

Planographic Printing Processes

***OFFSET PLATEMAKING.** Adam Henri Reiser. *Printing Equipment Engineer* 88, No. 5, February 1958, pp. 31-32 (2 pages). Why various kinds of plates are used; why different images are used; why plates are grained; general discussion on making offset printing plates.

***LITHOGRAPHIC REPRODUCTION DIRECTLY FROM XEROGRAPHIC PLATES.** John J. Rheinfrank, Philip F. Kurtz and Frederick C. Myers. 9th Annual *TAGA Proceedings*, Part B, May 1957, pp. 133-142 (10 pages). Major advancements have been made in the preparation of lithographic plates by xerography. This paper describes and illustrates (Continued on Page 111)

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LITHO CLUB NEWS

St. Louis

Starts Educational Program

The educational committee of the St. Louis Litho Club under chairman Calvin Jack, A. C. Litho Plate Co., has launched a program of advanced training for industry personnel and a scholarship award for promising lithographic students.

First recipient of the scholarship worth \$100 towards the payment of tuition, books or related expenses, is Theodore C. Lee, a 26-year old veteran attending the David Ranken Jr. School of Mechanical Trades. The school selected Mr. Lee in accordance with requirements set by the club.

The advanced training program

will begin this Fall with a series of lectures for foreman, supervisors and other key personnel at the David Ranken school.

The classes will meet once a week and cover technical problems from art to the finished job. William Davis, head of the lithographic department at Ranken, said that the purpose of the course will be to give craftsmen a better understanding of the lithographic process as a whole. Cost of the course is expected to be under \$10 a person.

Members of the club's educational committee are Walter Blattenberger and Daniel Neumann, Western Printing & Lithographing Co.; Albert Renda, Renda Litho Supply Co.; and Mr. Davis.

Lewis and Richard Fitzpatrick, Mr. Archibold described the 3M dampening system and positive working plate. In addition he gave a working demonstration of new developing processes for negative plates.

Shreveport

Installs Officers

The Shreveport Litho Club met at the United Gas Building on June 9th for the installation of officers and a practical discussion on lithography.

W. P. Gaines, supervisor of the reproduction department at Texas Eastern Transmission Corp., was elected president to succeed William Sidders.

Serving with Mr. Gaines are J. Calvin Baines, vice president; Roena Bradford, secretary; and Kenneth Dees, treasurer.

Members of the board of directors in addition to the newly elected officers are Mr. Sidders, Stella Miller, Gerald Dryer, Clark Strayhan and Cotton McCoy.

Cleveland

Holds Annual Picnic

On June 21, members of the Cleveland Litho Club relaxed at their annual picnic at Sally West Grove. Games, races, food and fun with a featured baseball game between the suppliers and the lithographers highlighted the day. A grand prize of a portable four-speed automatic phonograph was awarded.

Lowell C. Graham, manager of Eastman Kodak Stores in Cleveland, has been admitted to the club.

Russell Waddell, first vice president of the club was appointed assistant national secretary at the recent NALC convention.

Buffalo

Holds Stag Night

The Buffalo Litho Club held its annual stag party on June 21 at the Beitz Ranch, Pendleton, N. Y. The affair featured games and refreshments in an informal atmosphere.

Houston

New 3M Products Described

The May meeting of the Houston Litho Club was held at the Hearn Lithographing Co. where William P. Sipchen of Minnesota Mining & Manufacturing Co. discussed and demonstrated the new 3M dampening roller and sleeve.

Also on the program was Paul Guth who demonstrated the 3M positive presensitized offset plate and image developer for negative plates.

Craftsmen View Color Films

"Color Magic" and "This is Color," presented by International Printing Ink Corp., drew an excellent turnout for the May meeting of the Houston Club of Printing House Craftsmen. Introduced by Peter Blessing, local IPI representative, the two films presented the latest technical advances in the selection and use of color in everything from printing to decorating.

New York

To Discuss Lighting

On June 25 the New York Litho Club heard H. L. Parker, president of the American Speed Light Corp., New York, describe several new lighting developments.

Mr. Parker introduced the new "Pulsed Xenon" arc lamp from General Electric and "Ascorlux," a new line of lighting equipment developed by American Speed Light.

Detroit

3M Contest Winners Viewed

Members of the Detroit Litho Club saw a display of the latest Minnesota Mining & Manufacturing Co. "Excellence of Lithography" contest winners at their June meeting. The program, conducted by E. W. Archibold, 3M district sales manager, also featured demonstrations of recent developments introduced by the company.

Assisted in the program by George

"As a member I want to say that being a part of NAPL is a privilege, and the use of your many helps in answering our daily problems has given us aid in sales, advertising, improving the quality in each step of our product, production, efficiency and employee relations. The reports of panel discussions at the Conventions in past years are just marvelous. I wouldn't miss this one for anything..."

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BOSTON **CONVENTION**
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Twin City

View New Products

Members of the Twin City Litho Club were invited to a new products show by Roberts & Porter, Inc., 1533 No. Jackson St., Milwaukee, June 3-7.

On display were the 19 x 25" Miehle offset press, the 3m positive plate and dampening system, and many other new products distributed by Roberts & Porter. Technical advisors from the various companies represented were on hand to answer questions.

Washington

Plans Summer Parties

The Litho Club of Washington concluded its formal social and educational programs for the year at its regular monthly meeting on May 27 at the Continental Hotel. However, a number of informal social activities have been scheduled for the summer season.

On June 28 the club held its annual fishing party; and a family crab feast is scheduled for August 2.

Cincinnati

Two Movies Shown

Two films, "The du Pont story" and "Eye of the Unknown," were shown at the Cincinnati Litho Club's final dinner meeting of the current season. The meeting was held June 10 at the Golden Goose restaurant.

More than 200 members and their guests attended the annual moonlight boat ride on the Ohio River June 28.

On Aug. 2, the club plans to hold a picnic at Lammers Grove. Several hundred persons are expected to attend, including club members, their families and guests.

Printing Production Down

Figures released by the U. S. Department of Commerce show that the index of production in the printing, publishing and allied industries for February of this year dropped 1.4 from the previous year. This was

also .7 less than the January figure.

The monthly economic summary also indicated a drop in employment from the previous month, but a slight rise in average weekly earnings.

A breakdown of lithographic establishments for the same period showed some improvement in employment, and an increase in the average weekly earnings of lithographic workers from \$94.87 to \$96. The average figure for February 1957 was \$95.35.

Heads Education Council

Leslie C. Shomo, National Publishing Co., Washington, was elected president of the Education Council of the Graphic Arts Industry at its executive committee meeting in Chicago June 13.

Newly elected vice presidents are Ralph D. Cole, Consolidated Lithograph Corp., N. Y.; George S. Dively, Harris-Intertype Corp.; and Harold D. Ross, Kable Printing Co., Mt. Morris, Ill. James W. Coultrap, The Miehle Co., was elected treasurer; Byron G. Culver, Rochester Institute of Technology, secretary; and Harry A. Porter, Harris-Intertype, executive vice president.

Elmer G. Voigt, Western Printing & Lithograph Co., who had served as president since 1953, was elected president emeritus.

The meeting was highlighted by reports on the progress of several of the council's recent projects. One of these is the National Scholarship Trust Fund which has just granted nine full four-year scholarships and eight summer school scholarships.

The award winners were selected out of a group of 179 contestants who applied. Recipients expressed a desire to make the graphic arts industry their career.

Among the new projects adopted by the council is one to make a series of movies on presswork. The first one to be produced will describe the major printing processes, their uses, limitations and advantages, etc.

The executive committee endorsed an intensive membership campaign to gain additional financial support for the council from the graphic arts industry.

Litho Club Secretaries

ATLANTA: Hulan Hill, 590 Glendale Dr., Decatur, Ga.

BALTIMORE: Harold E. Hackman, 5412 Leith Rd., Baltimore 12.

BOSTON: Vincent J. Aliberte, 2010 Revere Beach Pkway, Everett 49, Mass.

BUFFALO: Edmond S. Sendker, 978 Ellicott St., Buffalo 9

CANTON: Clayton Betz, 531 Grosvenor Dr., Massillon, O.

CHICAGO: James V. Gianpetro, 40 S. Clinton St., Chicago 6

CINCINNATI: Harold Biddle, 3308 Galbraith Rd., Cincinnati

CLEVELAND: Alvin Martin, 1011 Power Ave., Cleveland 14

COLUMBUS: Edward Carter, 873 Williams St., Columbus 8

CONNECTICUT VALLEY: James W. Bellamy, 72 Steuben St., Indian Orchard, Mass.

DALLAS: A. G. Copeland, 3116 Commerce St., Dallas

DAYTON: Loomis Pugh, Route #2 Troy Rd., Springfield, O.

DETROIT: Erhard B. Toensfeldt, 2000 W. Eight Mile Rd., Ferndale 20, Mich.

FORT WORTH: Paul Hansen, 5317 6th Ave., Fort Worth

HOUSTON: Frances Porter, 2301 Huldy St., Houston 19

LOS ANGELES: Al Griffin, 520 Monterey Rd., S. Pasadena

MILWAUKEE: Jack W. Miller, 2572 N. 21st St., Milwaukee

NEW YORK: Louis Happ, 11 Darby Court, Malverne, N. Y.

PHILADELPHIA: Joseph H. Winterburg, 618 Race St., Philadelphia 6

PIEDMONT: Mrs. Jo Woody Shaw, 502 Security Bank Bldg., High Point, N. C.

ROCHESTER: Edward Potter, 196 Somershire Drive, Rochester 17

SHREVEPORT: Roena Bradford, Post Office Box 397, Shreveport

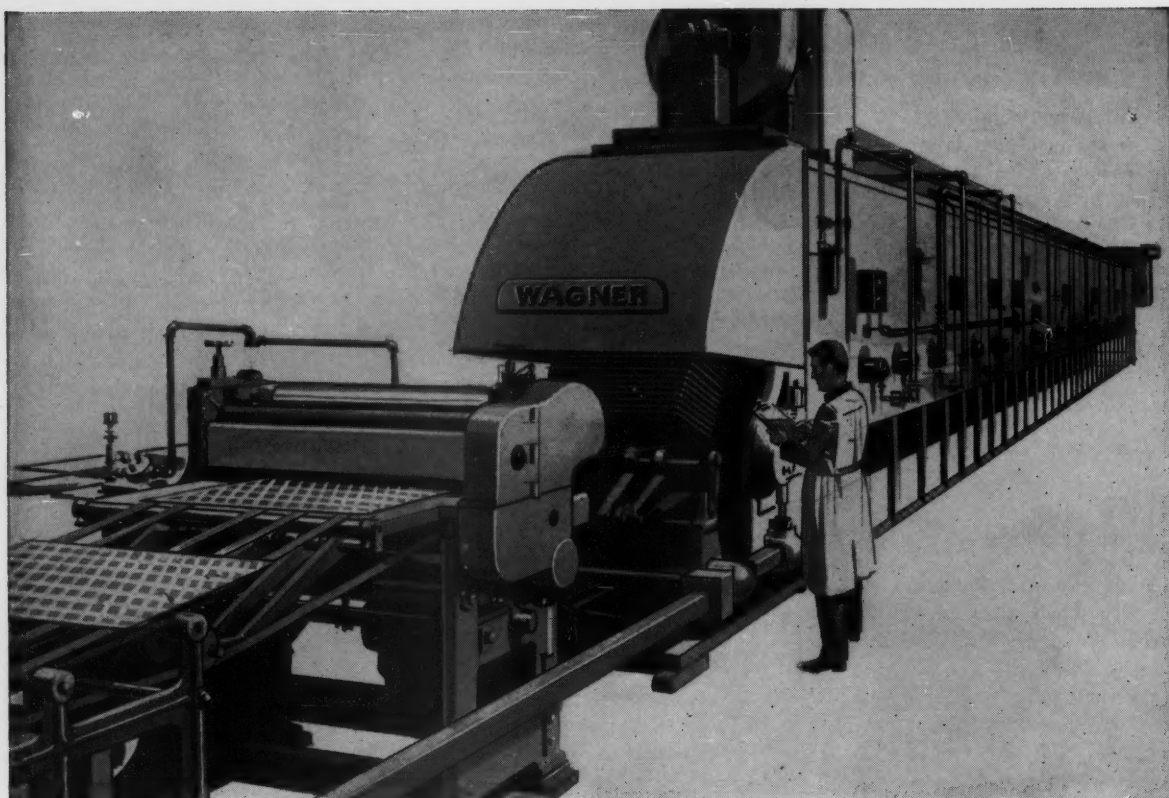
ST. LOUIS: Ray K. Eckles, 7023 Radom, St. Louis 16

TULSA: Mrs. Madeleine K. Hare, 2521 South Birmingham Place, Tulsa 14

TWIN CITY: Mr. Clifford Goebel, 138 Montrose Place, St. Paul

WASHINGTON: Raymond Geegh, 1915 33rd St., S.E., Washington 20

CENTRAL WISCONSIN: George L. Camarda, 523 Oak St., Oshkosh, Wis.



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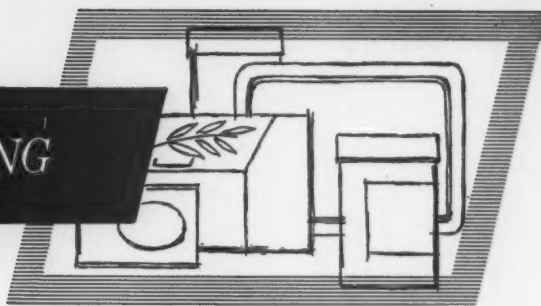
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Division

METAL DECORATING



Future of the Can Looks Bright

THE continued growth of the tin can for packaging, despite the advent of a variety of other materials, was the subject of an exhaustive survey presented in the *Wall Street Journal* last month. The survey was prompted by a press reception for American Can Co.'s new plant in Hammond, Ind., not far from Chicago. The 325,000 square-foot plant incorporates Canco's newly devised system of lithographing sheets of metal from rolls, a process that was described in these pages several months ago. The rolls are cut off in sheet sizes required for the particular can being lithographed.

The plant "may revolutionize the whole can-making industry," according to William C. Stolk, president of American Can Co. "The tin can business is growing at an annual rate of four percent," he added, "and we see nothing that will interfere with that continued growth."

(A quick check of several metal decorating plants in the New York area by ML revealed that most are feeling the pinch of the recession but are optimistic that a comeback will be staged later in the year with business concentrated in the final quarter.)

Can Still Gaining

The *Wall Street Journal* survey points out that despite the growing sales of frozen foods in cardboard cartons and stiff competition from glass and plastic packaging, the housewife still reaches for her can opener

at a steadily rising rate. The article goes on to point out that can makers expect to produce about 43.5 billion tin cans this year, about 250 per capita. As recently as 1946 the figure was only 170 per capita.

About 56 percent of tin cans go to the food industry, it continues, but can makers are broadening their markets all the time. (It should be remembered, of course, that a high percentage of the cans in the food field are not decorated but contain paper labels.)

Today, the *Journal* notes, 2,500 food and non-food items go into cans. The products include such diverse items as chocolate-covered, French-fried Columbian ants, ball bearings, toothpaste and tennis balls. New products which soon may be market tested in cans include liquid shampoos, jams, jellies, salad dressings, ice cream toppings and toothpastes.

The mainstay of the metal decorating industry, of course, is the beer can, which, since its inception, has been taking an ever-increasing portion of the market from glass containers. Cans now account for about 35 percent of the market. One-fifth of total can production—about 8.5 billion cans—goes to breweries.

Several metal decorators have reported to ML that they have increased their production of cans for frozen fruit juice concentrates, and for soft-drinks in containers, which have had

only limited acceptance in the United States but quite marked success in other countries.

Aerosol Field Growing

One of the richest new fields for cans—many of them decorated by lithography—is the aerosol field, as reported in these pages several months ago. Aerosol can sales jumped from 362 million in 1956 to 432 million last year, with the figure expected to hit 535 million this year.

The *Journal* article calls attention to a very significant development in the can field: the attempts by aluminum manufacturers (whose material is in over-supply) to create a market for aluminum among canners.

Although corrosion-free aluminum cans still cost more than tin-plate cans, Esso Standard Oil now is using them for the combined requirements of the Esso filling plants at Bayonne, N.J. and Baltimore, under a special arrangement with Reynolds Metals Co. With the cost of aluminum cans 25 to 50 percent more than so-called tin cans, broader application of aluminum has been retarded, according to some decorators.

Tests with Aluminum

At present, however, American, Continental Can, and National Can Co. are continuing their research in the field. The author of the *Journal* article, Ray Vicker, reported that L. Ylvisaker, metal division research head for Continental, had stated that

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"aluminum certainly won't replace tin plate, but it will have a place in the can field, primarily for specialties such as drug store items which now are packaged in plastics or glass."

Reports of the three biggest can manufacturers indicate optimism for the future. Continental is five percent ahead of last year in tin shipments, American's sales are about even and National expects a 10 percent jump in can sales for the first six months.

The *Journal* writer also mentioned Continental Can Co.'s \$7.5 million research center on Chicago's South Side, as typical of the can industry's efforts to make can production and assembly more fully automatic, a trend that is of vital importance to all metal decorators.★

New Detergent in Cans

First National Stores, Inc., Northeastern supermarket chain, has introduced a new liquid detergent under its "Finast" label in 12- and 22-ounce sizes.

Packed in lithographed, Non-Drip metal cans produced by American Can Co., the new product retailed at four 12-ounce cans for \$1 during the recent "Dollar Days" sales at First National stores in the Boston area. The larger size sells for 49 cents.

The "Finast" formula was developed by Curley Co., Inc., of Philadelphia, specialists in light- and heavy-duty detergents, in conjunction with First National. Curley also manufactures and fills the detergent for the chain.

New Ink for Decorators

Metal decorators may profit from a new development in inks announced last month by DuPont. The company released word of its new family of red pigments, with lightfastness and other properties which make possible durable red shades for automobile finishes, inks and many other products. The new "Monastral" red pigments are being manufactured in a new DuPont center in Newport, Del. Preliminary production is now underway and commercial quantities will be available in the fall, according to

M. J. McLain, colors sales manager for the pigments department of the company.

"Pigments in the red portion of the spectrum have been extremely weak in outdoor exposure durability, particularly in the pastel shades," Mr. McLain stated. "The 'Monastral' reds offer a combination of properties not found in any commercial red pigment today."

ML checked with DuPont on possible application of these pigments in the metal decorating industry and was told that "in offset lithography of beer, soft drink, oil and other metal cans, 'Monastral' reds and violets should be important because of their excellent heat stability. Many of the red pigments now being used tend to darken or change color during the baking operation. In addition, the bleed resistance of these reds should be important in decorating of certain food cans which must be steam sterilized. Bleeding often is a problem with reds in this application."

The company went on to say that in metal signs produced by metal decorators, the excellent lightfastness and durability of the "Monastral" reds should prove advantageous. In the past, fading of red shades has been a problem for some signs subjected to outdoor exposure.



Neal D. Rader

Neal Rader Recovering

Neal D. Rader, one of the most popular persons attending annual conventions of the National Metal Decorators Association, is recovering at his home in Texas after a recent serious operation.

Mr. Rader is with the packaging division of the Texas Co., Port Arthur, Tex., which operates a metal decorating plant for lithographing oil cans.

His home address is 2411 Date St., Port Arthur.

NMDA Plans Program

TENTATIVE program for the annual convention of the National Metal Decorators Association reveals a varied list of talks for the meeting in Pittsburgh later in the year.

NMDA will convene in the Penn Sheraton Hotel, Pittsburgh, Oct. 6-8. Harold W. Lee is convention chairman.

Monday and Wednesday will be devoted to business sessions and a group of speakers, while Tuesday will be devoted exclusively to a visit to the metal decorating operations at the H. J. Heinz Co.

A talk by Richard F. Sentner, executive vice president of the United States Steel Corp., will open the convention. Charles H. Groff, of Watson Standard Co., will follow with a talk on epoxy resins, and A. J. Huber, of Minnesota Mining and Manufacturing Co., will describe the 3-M Dampening System.

A talk on the latest developments in metal decorating—use of aluminum cans—will be given Wednesday morning by George L. McClain, of Aluminum Company of America. Edward Swayduck, president of Local No. 1 (New York) Amalgamated Lithographers of America, will follow with a discussion of "ALA's views on Technology."

Henry Bates, of Lilly Varnish Co., will outline lacquering difficulties with electrolytic plate and O. C. Holland, of Interchemical Corp. will give his well-known demonstration entitled "The Magic of Color," which shows in an entertaining way how easily the eyes can be deceived by color.

A panel discussion on new mechanical developments in metal decorating will conclude the convention. Panelists will include Fred Adame, R. Hoe & Co., ovens; C. F. Scheehle, Wagner Litho Machine Co., coaters; J. D. Russell, Young Brothers Co., ovens; and A. E. Peckman, Dexter Co., Division of Miehle-Goss-Dexter, feeders and pilers.

Countess Maria Pulaski will present her story "My Life as a Spy," at the annual banquet on Wednesday evening.

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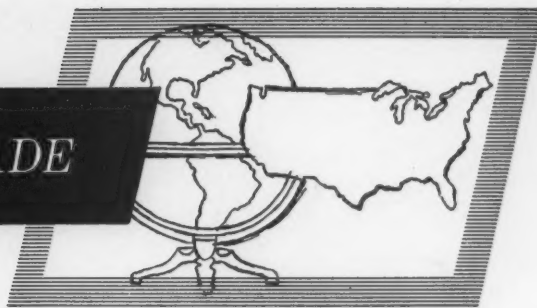
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NEWS about the TRADE



ALA Waives Wage Hike in New York

LENGTHY negotiations between union and management in the New York area were ended in the middle of June with the signing of a contract with ALA which provides no wage hike this year. The two-year contract, however, does provide for a \$5 a week across the board raise for union lithographers May 1, 1959.

The Metropolitan Lithographers Association, representing management, had presented evidence during the prolonged negotiations that wage rates in Local 1, covering the New York area, were so far ahead of rates in other cities around the country that work was leaving the area, cutting both profits and employment.

The local of the Amalgamated, headed by Edward Swayduck, responded by waiving any wage increase with the statement that "all of our members and the industry as a whole have more to gain at this time by helping our employers sell their products at a competitive level than by adding to our wage scales which could cause business to leave New York and create an employment problem.

"In the past 10 years," the statement continued, "while business was at a peak, Local 1 won increased wages and fringe benefits far exceeding the levels of increases and benefits generally secured in the United States, such as 35-hour weeks, three-weeks vacation after one year of employment, a 5 percent pension fund, 10 guaranteed paid holidays and high overtime rates."

While there is no immediate wage increase for the union, aside from a cost-of-living program, the contract

does call for increased welfare benefits, which will cost employers \$6.50 a week for each member.

Local 1 includes 7,500 members, or about one-fifth of the total ALA membership in the United States. Their take home pay ranges between \$125 and \$175. Wages in the local are about 20 percent higher than in any other city.

The union commented that it believes the new contract "will stabilize prices in this area and permit management and the union to cooperate in new programs for industrial progress."

NAPL Exhibit Plans Underway

The 26th annual convention and exhibit of the National Association of Photo-Lithographers will be held at the Hotel Statler and the 1st Corps Cadet Armory, Boston, Sept. 10-13, 1958.

Walter E. Soderstrom, executive vice president of the organization reports that the exhibits will deal with every phase of lithography including selling, costing, estimating and new products and materials.

LNA To Change Name

Members of the Lithographers National Association last month approved the recommendation of the board of directors to change the association's name to Lithographers and Printers National Association, Inc.

The change, approved by more than two-thirds of the membership at a proxy meeting in New York on June 6, is pending approval from the Secretary of State in Albany.

In proposing the change of name on April 27 in Phoenix, the board stated that it was required as a result of recent changes in the composition of the graphic arts industry. In recent years many plants that traditionally had only one process now have three or four, including gravure, flexography and silk screen. This diversification is true of both lithographic and letterpress plants.

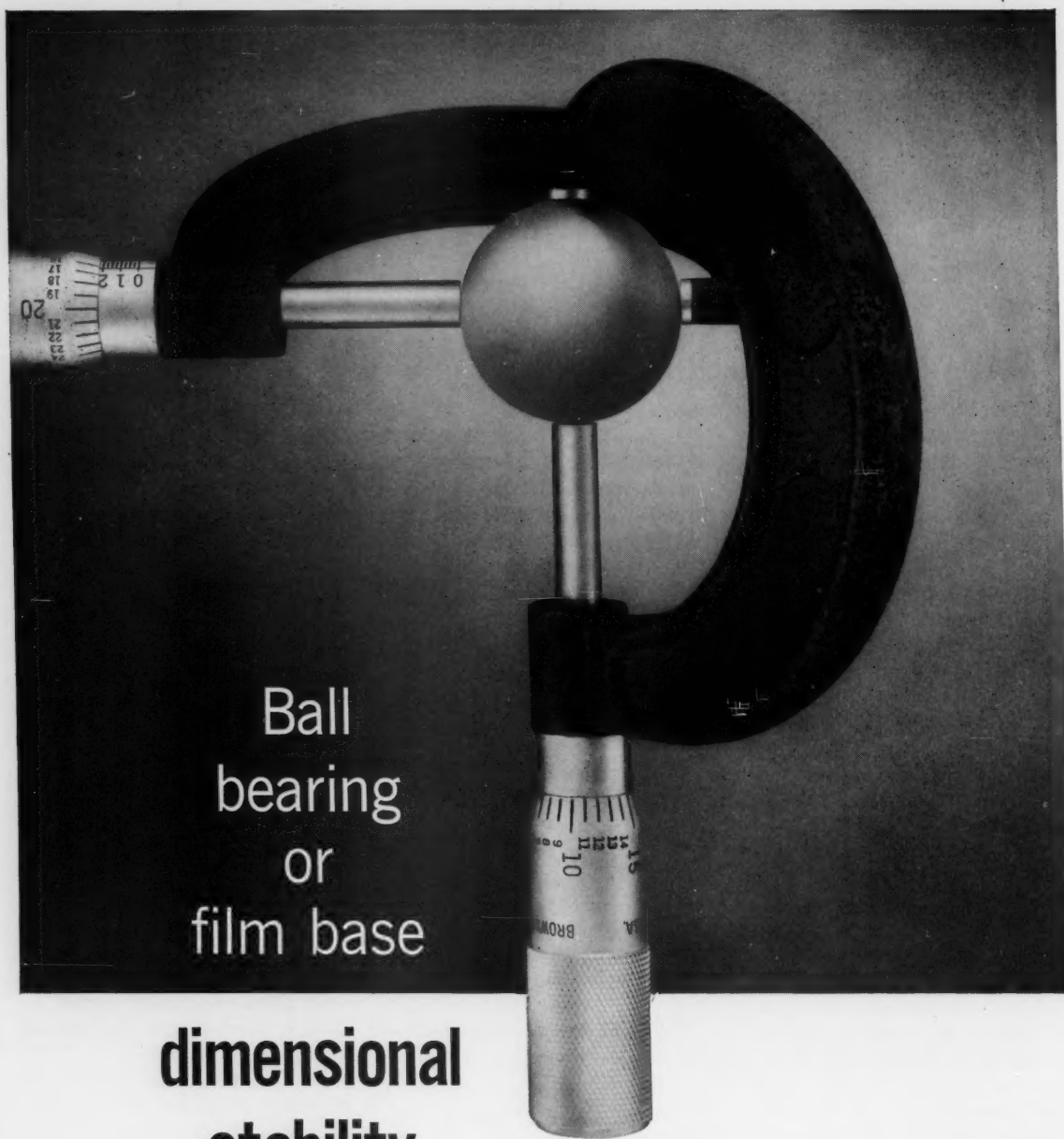
Simultaneously, with the development of multi-process plants, the board noted that lithographic manufacturers had been developing specialties where several printing processes are required. It cited such instances as bank stationery, label manufacturing and point-of-purchase display material, among many others. It was felt that the name change was essential for the association to function effectively in the area of these specialties.

This represents the fourth name change in the history of the association. When originally formed in 1888, it was known as the National Lithographers Association. In 1906 it was incorporated as the National Association of Employing Lithographers, and in 1926 it adopted its present name.

Inland Press Buys Building

Inland Press, Milwaukee, has purchased the two-story building it has occupied since 1952. The 14,000 sq. ft. structure was acquired from the Ticonic Investment Co. for \$95,000.

Charles A. Petri, vice president and general manager of the lithographic firm, announced that the move rounds out a six-year development program which included extensive remodeling of the plant and the purchase of new equipment.



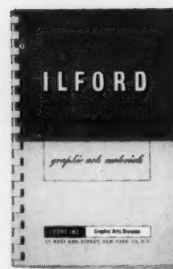
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Craftsmen Meet In August

A tour of Henry Ford's Greenfield Village will be the entertainment highlight of the 39th annual convention of the International Association of Printing House Craftsmen, in Detroit, August 10-13.

Greenfield Village is an outdoor museum which contains more than 100 restored historic buildings moved from various parts of the country.

On the business side of the picture there will be a series of business meetings and clinics, several of interest to lithographers.

John Porter of American Type Founders, Inc., will conduct a clinic on the new ATF typesetter. He will be assisted by Floyd Larson.

Other clinics will feature talks by Stuart Edmonds of Direct Image Corp., and Chesley Carlson of the company bearing his name.

Parts of the program are still tentative and the subjects of several other clinics and talks will be announced at a later date.

Committee chairmen are Joseph Piper, publicity; Theodore Thomas, technical; Kenneth Bancroft, registration; Walter Wehr, teenagers program; Starr Wade, finances; Robert Knox, souvenir program; Marvin

Lohr, Liaison; Earl Bierbauer, reception; Verne Boyle, pre- and post-convention activities; Glen Peterson, entertainment; Harold Peets, plant visitations; Arthur Stammersky, souvenir kits; and Mrs. Theodore Annen, ladies' activities.

Great Lakes Expands

Great Lakes Press Corp. has broken ground for a 12,000 sq. ft. pressroom addition to its plant at 439 Central Ave., Rochester, N. Y.

The half-million dollar expansion is expected to boost the firm's production capacity and employment force by 10 per cent.

The one-story unit is scheduled to be completed by the end of the year.

Institute Graduates 114

The Chicago Lithographic Institute at graduation ceremonies, June 20, presented certificates to 114 students representing 65 Chicago area litho firms. The services were held in the auditorium of the Auto Mechanics hall, at 133 S. Ashland Ave., across the street from the Institute. Ren R. Perry, vice president, sales, Harris-Intertype Corp., was the commencement speaker substituting for Harry Porter who was unable to attend.

Lehigh Honors Blattenberger

Raymond Blattenberger, Public Printer, U. S. Government Printing Office, was cited by Lehigh University during its 90th commencement exercises on June 9. He received an honorary degree of doctor of engineering from Dr. Martin D. Whitaker, president of the University.

The honor was bestowed in recognition of his many contributions to the business and technical aspects of the printing industry and for his effective public service. The citation reads as follows:

Raymond Blattenberger, skilled artisan, outstanding executive, and distinguished public servant, the efficiency which you have developed in the Government Printing Office, the largest printing plant in the world, the appreciation of the graphic arts as a factor of our culture which you have stimulated, and the cooperation which you have fostered with the fifteen unions working at the Government Printing Office all attest your mastery of finance, your understanding of industrial organization, and your appreciation of human relations.

SGAA Sets Convention Date

The Southern Graphic Arts Association will hold its 38th annual convention in Jacksonville, Fla., April 27-29, 1959. Convention headquarters will be the Hotel Robert Meyer.

Additional photos from Southern Graphic Arts Association convention in Louisville (courtesy Mrs. J. Tom Morgan, photographer): Top row (l.-r.) Roy Cowan, Southwest Printing Co.; Dr. Paul Hartsuch, Interchemical Corp.; Otis E. Wells, Western Lithograph; Outgoing president J. Tom Morgan, Litho-Krome Co., introduces new president A. A. Wade, S. B. Newman Co.; William T. Clawson, Harris-Intertype; Mrs. Morgan; Miss Elsa

Wehr, Champion Paper & Fibre Co.; and Mrs. Charles Kennedy, SGAA. Bottom row (l.-r.) Mr. Wade; W. Allen Blythe, Westfield-Bonte Co.; Frank Parke, Democrat Printing Co.; C. A. Lick, Jr., Williams-Weldon-Lick Co.; new officers Wade, Blythe, 2nd vice president; and Harold Braun, Fetter Printing Co., 1st vice president; Victor Keppler, photographic illustrator, uses printed sheets to explain a point about photography.



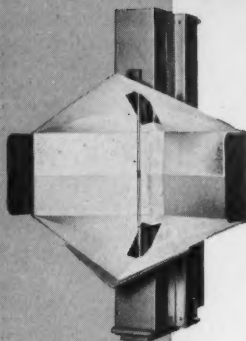
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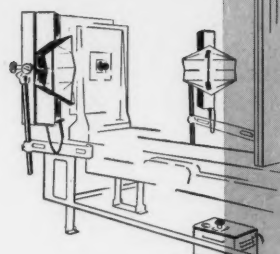
FULLY AUTOMATIC

High Intensity Arc Lamps



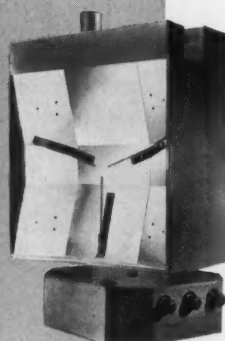
GRAFARC CHALLENGER 75 and 110 AMPERE HIGH INTENSITY CAMERA ARC LAMP

Permits accurate exposures of as short as 5 seconds. Accurate density control regardless of line voltage variations. Constant color temperatures. When lamp is energized the dual function motor instantly advances the carbons, strikes the arc, establishes correct gap length, and feeds the carbons so as to maintain the proper gap.



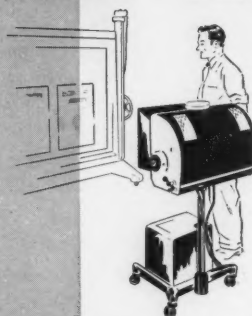
GRAFARC 140 AMPERE HIGH INTENSITY ARC PRINTING LAMP For Use With PRINTING FRAMES 40" x 50" AND LARGER

Twice as powerful as the average printing lamp, this lamp cuts exposure time in half. Uniform light coverage is provided, illumination variables entirely eliminated. Models for Mono-type Huebner MH photo composing machines assure precise control of intensity for accurate repeats.



TRI-POWER THREE PHASE HIGH INTENSITY ARC PRINTING LAMP For Use With PRINTING FRAMES 50" x 70" AND LARGER

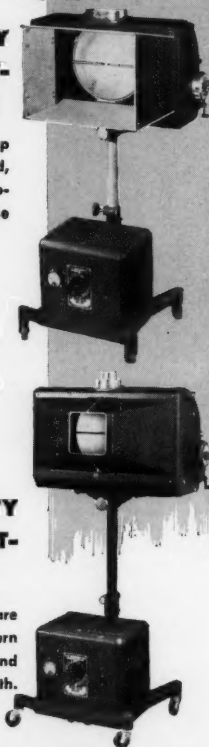
Burns a trim of three carbons to produce a single light source three times as powerful as the 140 ampere Grafarc. Dual function motor automatically compensates for any variables in the carbon burning rate. Permits accurate compensation for line voltage changes. Blower exhausts gases.



GRAFARC 95 AMPERE HIGH INTENSITY ARC PRINTING LAMP For Use With PRINTING FRAMES UNDER 40" x 50"

As with the 140 ampere printing lamp, overhead models are available for use with horizontal printing frames. They burn in normal position, thus avoiding smoking of the reflector and preventing ash from depositing on surfaces in the light path.

See your dealer or send for literature.



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EQUIPMENT
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GPE



Some of the 54 lithographers and suppliers who took part in the American Express Company's tour of DRUPA and leading lithographic plants in Germany, England and France. Under the direction of Walter Kubilius, American Type Founders Co., Inc.,

the trip attracted lithographers from 12 states, Canada and Japan. The group spent more than two weeks in Europe visiting such cities as Paris, London, Essen, Frankfurt and Berlin. Mr. Kubilius arranged all the plant visits.

Investigates Bond Contract

William J. McCauley, district attorney for the City of Milwaukee, last month started an investigation into alleged mishandling of city bond printing contracts between 1949 and early 1957.

As reported by the *Milwaukee Journal* on June 13, the investigation will look into contracts awarded to the Philipp Lithographing Co., without competitive bidding, by Virgil H. Hurless, city comptroller.

A board of inquiry appointed by the city council has claimed that since competitive bidding was adopted 16 months ago, the city has saved nearly \$186,000 on its bond printing. The board's report states that from 1951 through 1956, Mr. Hurless ordered 66,650 bond forms printed for the city at a cost of \$204,970.20. This is approximately \$3.07½ each.

The study showed that since competitive bidding was started, the city bought 66,500 bond forms for \$19,021.75, an average of 28.6 cents each.

Mr. Hurless, who tendered his resignation effective July 17, stated in a letter to the Mayor that "in the various charges leveled against me during the last months, there is no suggestion of dishonesty on my part and there has not been, nor can there be any charge of misappropriation of funds, because such charges if made would be false." His letter also stated

that he was retiring in order to protect the pension rights he earned in 31 years of public service.

Membership Drive Nets 37

An extensive membership drive by Printing Industry of Pittsburgh during May resulted in 37 new member firms in 31 days. Intensified support by members in the closing days of the month helped to surpass the original goal of 31 new applications in 31 days.

An exciting element was injected into the campaign with the mailing of daily postcards marking the progress of the drive and spurring the membership to greater efforts.

Purchases New Press

Stecher-Traug Lithograph Corp. has announced plans to buy a new four-color offset press for its Rochester division at a cost of \$300,000. The press is expected to double the production capacity of the plant, reduce costs and place the company in a better competitive position.

Richard C. Alden, executive vice president, reported the decision after disclosing that the division's May billings were the highest in its history. Billed sales through the first five months of this year are running approximately eight percent ahead of the same period in 1957.

NAPL Offers Full Program

The National Association of Photo-Lithographers expects to put on its largest convention exhibit Sept. 10-13 at Boston's Hotel Statler and the armory across the street. "In this exhibit," Walter E. Soderstrom, executive vice president of the association said, "lithographers will have ample opportunity to discuss their needs, not only with manufacturers and those who sell, but also with lithographers who actually are using the items."

Speakers at the 26th annual gathering will discuss subjects dealing with selling, production and management.

Otis E. Wells, president of the Western Lithograph Co. and NAPL, will discuss "Successful Advertising for a Lithographing Company." Other speakers scheduled are Quentin O. Young, industrial relations consultant for Philip Morris, Inc.; Harry E. Brinkman, president of the National Small Businessmens Association; and representatives from companies such as Lanston Monotype Co., Mergenthaler Linotype Co., and Photon, Inc.

Among the topics to be discussed are cold type composition, new equipment, supplies and methods, lithographing on foil and vinyl, work simplification, sales budgets, and depreciation.

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Ideal for fine-screen reproduction . . . assures uniform dot size automatically PROVIDES . . .

- Processing time control to $\pm 5\%$
- Temperature control to $\pm 1^\circ\text{F}^\dagger$
- Uniform agitation

†When Pako-Temp temperature control or equivalent is installed by purchaser.

Flint Heads Ink Makers

Robert H. Flint, vice president and treasurer of the Flint Ink Corporation, Detroit, was elected president of the National Association of Printing



Robert Flint

Ink Makers at its 44th annual convention held in Bedford, Pa. recently. He is the second member of his family to head the association. His father, Howard, served from 1933 to 1936.

For the past several years Mr. Flint has been president of the National Printing Ink Research Institute and he has served on the association's board of directors since 1951.

Other officers elected were James Yates of Martin Driscoll & Co., Chicago, as vice president; and Matthew Leckey, Sinclair & Valentine Co., treasurer. John S. Thome is a new director representing the Sun Chemical Corp.; Robert Gans represents the newly affiliated Los Angeles Printing Ink Makers Association; and R. E. Schwarm represents the association's Cincinnati affiliates.

Industry Changes Noted

The recent surge of research and development in the graphic arts has been so pronounced that the consumer press has taken notice of it.

The June 13 issue of *U. S. News & World Report* contains a three-page article which outlines many of the new developments and methods now in use and others in the testing stage.

The article pointed out that technology was slowed in the printing industry because of the large number

of small establishments, but recent developments and activity by research groups has placed the industry on the "verge of vast changes."

Advances made by the du Pont Co. in the fields of plastic printing plates and the heightened interest in photo-composition were covered by the special staff report in detail.

The weekly magazine predicted that "improved presses, better inks and greater use of color throughout newspapers and magazines are expected to keep in step with advances in the field of composition and typography."

"Whether the developments come as revolutionary or evolutionary progress, the indications are that this is a time for great changes in one of America's greatest industries," the article summarized.

Competition Winners on Display

The first New York showing of the 8th Lithographic Awards Competition winners was held by the Lithographers National Association, June 10-13 at the Architectural League. On display were 282 colorful pieces of offset-lithography in 47 classifications.

The winners were selected from 2,496 entries on the basis of lithographic excellence, quality of art and design and functional value. (See ML, April, page 72.)

Awards Scholarships

UARCO, Inc., manufacturer of business forms by offset and other processes, has announced the award of two four-year college scholarships to the sons of employees. Winners are Nicholas F. Wilberschied, Jr., whose father is a bindery foreman and traffic manager in the Cleveland, O., plant; and Donald W. Oakes, whose mother is an 18-year employee at the Oakland, Cal., plant.

This is the second year of the company's scholarship program, which is open to children of the 2400 employees in the seven UARCO plants and 49 sales offices. Selection of the winners is made by Northwestern University and Illinois Institute of Technology. Decisions are based on high school records and aptitude test scores.

Produces Lithographed Records

An unusual promotion piece, paper phonograph records, is being produced in full-color lithography by the Consolidated Lithographing Corp.,



Paper phonograph record lithographed in full-color by Consolidated Lithographing Corp. for several European advertisers.

Carle Place, L. I. Printed on both sides, the records are said to reproduce sound with excellent fidelity and have a long playing life.

Consolidated has already produced some records for several European firms and reports that it is equipped to turn out the new items in quantities from 10,000 to several million.

"This economical record has vast possibilities in the promotion field," Walter J. Ash, vice president and general manager of the company says, "because it can present a sales message with no limitations as to art or color in a form that has definite consumer value, and will be kept and seen repeatedly by the consumer."

Paper record promotion programs now are being developed in the company's creative department and are available to national advertisers in all industries.

Displays 'Twin-Band'

At its booth in New York's Coliseum during the National Packaging Exposition late in May, the Rossotti Lithograph Corp. featured "Twin-Band," an inexpensive method of multi-unit packaging.

Developed by Rossotti in cooperation with Robert E. Van Rosen, PDC, Twin-Band can be used to combine various containers and is said to double the printing and promotional area of the user's label.

Named Ilford Sales Manager

Robert C. Harbison has been named sales manager for Ilford Inc. He will be directly responsible to the company president and will supervise sales activities of the firm's graphic arts, X-ray, commercial, industrial and amateur division sales staffs. Prior to his promotion he was Ilford's West Coast technical representative.



Central Litho to Move

Central Litho Co. has announced definite plans for relocation in a newly-purchased one-story building at 1278 West 58th St., Cleveland. The move of the printing equipment will be accomplished over the summer months.

The new location will provide 18,000 more square feet of operating space, and allow room for future expansion.

The Vulcan Building, in which they are presently located, is being converted into office space as a part of a downtown Cleveland modernization project.

MASA Elects Officers

Vincent Nugent of B. Brown Associates was elected president of the Mail Advertising Service Association of New York City at its annual meeting for that purpose on June 10, at the Advertising Club. Other new officers are Bernard Fixler, Creative

Mailing Service, vice president; Henry Rothman, Century Letter Co., secretary; and David Cohen, Prompt Multigraphing, treasurer.

Three persons were elected to the eight-member board of directors. They are Marcene Heisner, St. John Associates; Robert Jurick, 5th Ave. Letter; and James Kiernan, Advertising Mailing Service.

I. Austin Kelly, III, president of the National Employee Relation Institute, spoke to the gathering on "Low Cost Pension and Profit-Sharing Plans for the Medium and Small-Sized Shop."

Robert Alexander and Charles Cote of the Minnesota Mining & Manufacturing Co., discussed and demonstrated the new 3M contractible dampening system and positive plate.

Four Changes at GPI

Sun Chemical Corp. has announced four personnel changes in the Eastern and New England divisions of General Printing Ink Co.

G. Thomas West has been appointed general manager of the Eastern division of GPI. His headquarters will be in New York. Prior to this appointment he was general manager of the New England branch.

The other promotions are Carlton V. Poley to New England branch manager; Anthony C. Fucillo to sales manager for the same territory; and Frank W. Tupper to assistant sales manager of the six-state area.

Writes to Eisenhower

Local 1 of the Amalgamated Lithographers of America made public their views on a wage increase in a letter to President Eisenhower on June 13. Edward Swayduck, president of the local, signed the letter which stated that the union is foregoing a wage raise for the forthcoming year to help stabilize the national economy. The letter said, in part:

"Today our local, the largest in the lithographic industry, announced an agreement with management to forego a wage increase for the forthcoming year. Our purpose is simple—to do our part in stabilizing the national economy and to help management at a time when a wage raise could only be passed on in higher prices to the consumer.

We firmly believe in a close relationship and partnership between management and labor. On it rests the success of American industry and our nation's economy; and therefore the success of our way of life against the threat of communism. . . ."

Copies of the letter were also sent to the Secretary of Labor; Senator Lister Hill, chairman of the labor and welfare committee; and Representative Graham A. Barden of the education and labor committee.

Knol Named Executive VP

Arthur N. Knol, vice president in charge of manufacturing for the W. F. Hall Printing Co., Chicago, has been named executive vice president of the corporation. He has served in the manufacturing post for the past 13 years.

Mr. Knol is also president of the Central Typesetting and Electrotyping Co., Chicago, a subsidiary of Hall and serves on the board of directors of the parent company. He has been with the firm since 1922.

Record Attendance At Drupa

Reports from Drupa, graphic arts sales fair held in Germany during May indicate that all attendance records were broken during the 14-day exhibition. There was a 15 per cent increase in foreign attendance alone over 1954.

Fair officials estimate that 338,000 visitors from 48 nations viewed the modern printing equipment displayed by 688 exhibitors.



James J. Deeney, co-founder of Bensing Bros. & Deeney, Philadelphia, receiving the 1958 Adult award from Dr. J. C. Warner, president of Carnegie Institute of Technology. (See ML, June, page 110). Looking on is Robert Flint, newly elected president of the National Association of Printing Ink Makers. Mr. Deeney was cited for his contributions to flexography and the development of a pigmented white flexographic ink that can be used both as a first down color and as an additive that gives opacity to transparent inks.



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print and paper

The music of the ages . . . operas, symphonies, hymns,
folk songs, marches, popular songs and classics . . .

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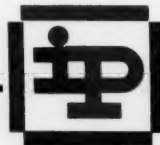
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so that you can see for
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Ti-opake is*

- Less show-through, faster drying without offsetting or feathering
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- New! Up to 100 lb. Vellum for offset, letterpress and gravure printing
- New! 8½ x 11" cut size, ream wrapped, 10 reams to new Junior Carton. Especially suitable for small offset duplicating presses
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LITHO INK

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Breath-taking fidelity with four colors on paper

Dow Latex improves dimensional stability and ink holdout while reducing water sensitivity—makes for sharper printing and fracture-free folding. It assures you of highest quality coated stock at very reasonable cost.



Authentic 18th Century household items courtesy The Henry Ford Museum



The illustration of early 18th Century household items was selected for several reasons. Aside from its historical interest it effectively demonstrates the reproduction possible on latex coated stock. In this instance, 80 lb. off-machine coated dull offset stock was used. Put a glass to the paper and you'll see why only latex offers such an excellent printing surface.

For fine quality reproduction, specify latex coated papers

When you record your written or pictorial message on latex coated paper you have eliminated a variable which often means the difference between a good or a mediocre printing job.

The printer's first consideration is the surface of a sheet; is it properly coated to receive the inks he means to apply? Does it have the qualities which will assure sharp, clear reproduction every time? The answer is yes if the sheet is latex coated.

Paper coated with latex makes it possible to obtain sharp, clear, true-to-life images no matter what printing process you prefer.

Major paper manufacturers are now using latex in their coatings for paper. It is used for machine and off-machine coating for both dull and glossy stocks. For more detailed information on latex coated paper, write THE DOW CHEMICAL COMPANY, Midland, Michigan, Coatings Sales Dept. 2156.

YOU CAN DEPEND ON

DOW



A scene from the exhibit hall of the new graphic arts center opened recently in Dallas by the Olmstead-Kirk Co. Shown are the catering facilities in the background. The front of the counter is decorated with copper half-tone plates. Also pictured is a portion of an exhibit of commercial art being shown in conjunction with the center's opening.

Paper Merchant Opens Graphic Arts Center in Dallas

The Olmstead-Kirk Co., wholesale paper merchants, has announced the opening of a graphic arts center at 1037 Young St., Dallas. The center is under the supervision of Betty Olmstead, daughter of the company's president, Robert M. Olmstead.

The center contains a 3,000 sq. ft. exhibition hall with catering facilities; and 83 seat auditorium; and a library for conferences. It is suitable

for meetings, seminars and educational programs of all types. It is completely air-conditioned and open daily from 9 a.m. to 4 p.m.

In making such facilities available to the graphic arts the company hopes that in addition to serving the industry in many different ways, the center will help to "enhance and further dignify the entire graphic arts industry in the Texas area."

Names Robinson President

THE Bank Stationers Section of the Lithographers National Association elected Edward A. Robinson of the J. C. Hall Co., Pawtucket, R. I., chairman of its executive committee at the section's annual meeting June 12 and 13 in Chicago.

Mr. Robinson succeeds Clark R. Gregory, Jr., The Herald Printery, Louisville. Named vice-chairman was R. B. Calvert, The Reserve Lithograph & Printing Co., Cleveland.

The two-day conference at the Sherman Hotel was opened by LNA president L. E. Oswald who commended the 75 bank stationers attending for their foresight and realism in examining their problems collectively.

Oscar Whitehouse, executive director, spoke on the tax problems plaguing small businesses in this country and pointed to the need for a new concept by the government regarding reinvestment depreciation.

Highlight of the conference was a workshop session conducted by George W. McSweeney, president of DeLuxe Check Printers, Inc., Chicago. Numerous developments in bank

electronics were covered in detail by Mr. McSweeney, who is the section's representative to the American Bankers Association. A question and answer period followed his talk.

Other speakers included David Hinkel, First National Bank of Chicago; Ray L. Fortune, chairman of the ABA technical committee on type design and Van Spina of International Business Machines.

Newly-elected members of the executive committee are Cecil N. Rudnick, Joseph Berg Manufacturing Stationer, Inc.; R. R. Lowdon, Stafford-Lowdon Co., Ft. Worth; and A. Van Gorkom, Protectu Bank Note Corp., Chicago. E. Bennett Young, of Young and Selden Co., Baltimore, continues to serve on the Committee.

Institute Graduates 72

The fourth annual graduation exercises of the Cleveland Lithographic Institute were held June 16, with 72 students receiving diplomas. Principal speaker for the exercises was William T. Clawson, director of advertising and sales promotion for Harris-Intertype Corp.

Beilenson Named AIGA Head

Edna Beilenson, a partner with her husband, Peter, in the Peter Pauper Press, Mount Vernon, N. Y., was elected president of the American Institute of Graphic Arts at its 44th annual membership meeting late in May. She is the first woman to be elected to the presidency of the Institute.

Other officers are William P. Gleason, the Colonial Press; Alvin Eisenman, Yale University Press; George McCorkle, Charles Scribner's Sons; Horace H. Nahm, Hoooven Letters, Inc.; and Joseph Blumenthal, The Spiral Press, all vice presidents; Bruce Gentry of H. Wolff Book Mfg. Co., Inc., secretary; and Leonard Shatzkin of Doubleday & Co., Inc., treasurer.

Buys Colortype Plant

J. W. Clement Co., Buffalo, N. Y., has purchased the American Colortype Co.'s Fullerton Ave. offset plant in Chicago and will operate it as Clement Colortype, Inc. Michael J. Bosak, III, has been transferred to Chicago as vice president and general manager of operations.

Map-Makers Meet in Chicago

Map Makers from 10 countries throughout the world met in Chicago on June 15 to explore ways to improve the cartographic art and to discuss means for international exchange of map-making processes and techniques.

Delegates meeting for the week-long International Cartographic Conference sponsored by Rand McNally & Co., discussed subjects such as map design, drafting, reproduction processes, silk screening and international cooperation.

Four sessions were held on reproduction processes which included discussions on recent techniques and developments of special interest to cartographers. One session dealt with plastic printing by offset and the control of lithographic inks. Others covered such topics as stripping, standardization of screen tints and a comparison of surface and deep etch plates.



Goerz Appoints New Dealer

Donald LaGrange (right) of LaGrange, Inc., Hollywood, presenting C. P. Goerz American Optical Co. dealer certificates to Arthur Royce (left) and Fletcher Gould, partners in Royce Photo Supply, Los Angeles. The new distributor is one of the first graphic art supply firms to take advantage of a new Goerz dealer plan.

Fred Hacker Dies

Frederick A. Hacker, Web Division sales manager, Eastern states, for American Type Founders Co., died May 31 at his office in Philadelphia. He had been with the company since 1935, and prior to that was associated with several printing firms in the New York area.

During his 23 years with ATF, Mr. Hacker served as new products department manager, manager of offset sales, vice president in charge of sales and market research and Western sales manager. He was appointed to his most recent position in 1955.

Buys Big Harris Press

Miller & Miller, Inc., Atlanta, until now a predominantly letterpress shop, has purchased a 52 x 77" five-color offset press from the Harris-Seybold Co.

The double delivery press will be installed in a new 108,000 sq. ft. plant on a 39-acre site in Stone Mountain, a suburb of Atlanta.

New Post for Isom

R. R. Donnelley & Sons Co., Chicago, has appointed Winfred R. Isom director of the Willard, O., manufacturing division. He has been with the company since 1926.

Mr. Isom received his apprentice training in the rotogravure department of the Company where he became successively foreman and then superintendent. He has also served as

director of the Chicago manufacturing division. Since 1956 he has been resident manager of the Crawfordsville, Ind., offset plant.

Under construction at Willard is a 106,000 sq. ft. addition to the present 66,000 sq. ft. plant. Here additional facilities will be installed for printing and case binding.

William Barry Honored

William D. Barry, vice president of Mallinckrodt Chemical Works, was the guest of honor at a dinner on June 9 marking completion of 50 years of service to his company and the industry. Held at the Union League Club in New York, the dinner was attended by approximately 75 of Mr. Barry's friends.

Those at the dinner, as well as many who could not attend, contributed a sum of money to set up a fund for retarded children in memory of Mr. Barry's late wife.

Package Designers Meet

A panel of seven designers met at the Lotos Club in New York last month under the auspices of the Package Designers Council to discuss significant trends and future developments in package design.

Speaking to an audience of designers, manufacturers and advertising agency representatives, the panelists agreed that the improvements in materials and methods at this year's AMA packaging show were a sign of the industry's vitality.

To Judge Craftsmen Contest

Deadline for entries in the annual stamp and poster contest sponsored by the International Association of Printing House Craftsmen was June 30. Winning designers will receive a gold cup at the Craftsmen convention being held in Detroit next month.

Judges for the stamp entries are A. R. Tommasini and John B. Goetz, University of California Press; Daniel K. Beswick, Bonestell & Co.; and Carroll T. Harris of McKenzie and Harris, Inc.

Poster judges are Richard J. Hoffman, Los Angeles City College; Thomas Jennings of the U.C.L.A. art department; and Thomas Simon of Anderson, Ritchie and Simon.

Elects Parker and Shimer

Edwin W. Parker has been elected president and Johnston B. Shimer, secretary-treasurer of the recently reorganized Photo Litho Plate Graining Co., Inc., 1200 S. Baylis St., Baltimore. Each man now owns 50 percent of the company's stock.

For the past 15 years Mr. Parker was vice president and secretary-treasurer of the Parker Metal Decorating Co. Previously he had founded the company he now heads but sold it to Norman Heath who operated it until his death.

Mr. Shimer was formerly general manager of the Buck Glass Co., and is part owner of a metals manufacturing company in New York state.

The board of directors of the firm includes the two above mentioned officers and Clifford C. James, management and marketing advisor and dean of the University of Baltimore School of Business, Industry and Management.

Nelson of Lanston Retires

Lanston Monotype Co. has announced that George E. Nelson, Philadelphia district manager, is retiring July 31 after 41 years with the company.

Mr. Nelson, who joined the firm in 1916 as a salesman, is being succeeded by Stanley E. Sims, assistant district manager for the same area.

60"

New...

LAWSON Pacemaker Hydraulic Clamp Cutters

66"

69"

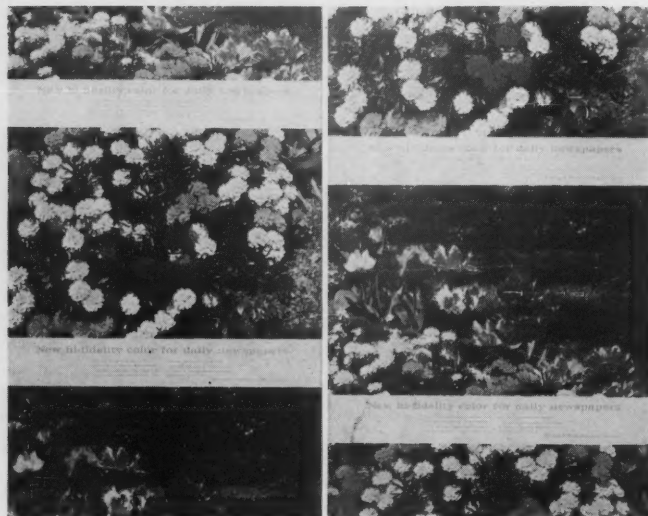
More than 60% faster and 20% heavier than comparably sized machines, these amazingly accurate Lawson Pacemaker Cutters are really new from the ground up! Adjustable center bearing on knife bar... adjustable gibs... rear table-slot closing device... performance-proved hydraulic clamping... built-in air cushion device... truly flexible Adjustable Contour Clamp... exclusive electronic spacing to .002"... no other cutter offers so many profit-stretching advantages! The Lawson Pacemaker Cutters are as modern as tomorrow. Write, wire or phone for full details, today.

THE LAWSON COMPANY

Division of Miehle-Goss-Dexter, Inc./Pearl River, New York



Web Offset For Newspaper Inserts



View of two copies of web-offset insert in June 13 issue of the *New York Herald-Tribune*, showing effect of "creepage."

AN important new use for web-offset was unveiled last month in the *New York Herald-Tribune*.

The newspaper used a full-page advertising insert in four-color process which may open a vast new market for web offset. The advertisement was a marked improvement over previous color advertisements in newspapers by letterpress.

Prepared by the Young & Rubicam advertising agency in New York, the advertisement utilizes a process developed by the agency in cooperation with Eastern Colortype and Safron Printing Co.

The press used was a 22 $\frac{3}{4}$ x 35" four-color web offset publication press manufactured by American Type Founders, Inc.

The new process, called the "Hi-Fidelity Color Process" by the agency, makes it possible for newspapers to inject a pre-printed, four-color full page advertisement automatically into the newspaper presses from a standard roll. The sheet appears as an insert.

One problem which had to be overcome was "creepage," the unavoidable shrinking of the paper during the press run, caused by slight variations in the letterpress cylinder diameter. This makes the cut-off point on each page vary.

To combat this phenomenon, Young & Rubicam explained, a new advertising concept was developed. This was copy and art work in a continuous pattern. With this continuous design, similar to a roll of wallpaper, the entire advertisement appears on the page, regardless of where the cut-off point is.

Agency officials pointed out that the development "is just out of the experimental stages and certain factors limit its widespread use at present."

For example, it is still too soon to outline what costs will be. This factor will depend on volume.

A vast majority of the newspapers approached have expressed a strong interest in the new concept, and it is generally concluded that it is a significant advance in newspaper advertising techniques.

Use Of Color Increasing

Color in newspapers is largely responsible for the public's increased color consciousness today, according to a report issued by Printing Industries Association, Inc., of Los Angeles.

Seventy per cent of America's newspaper readership is being exposed to color, the report stated, because news-

papers are using more color in headlines, news photos, cartoons, and advertising now than at any other time in their history.

The reason, according to the association, is the development of new, true-color inks that dry quickly, will not smear, and are available at a relatively low cost to users. The report estimated that more than 800 daily newspapers offer color on a regular basis.

To Demonstrate Typesetter

The ATF Typesetter will be demonstrated on July 10 and 11 at an open house in the new quarters of the Philadelphia branch of American Type Founders Co., Inc., 207-209 No. Broad St.

Harry Stoddard, Typesetter product manager, will operate the machine on a continuous demonstration basis. The keyboard and photographic unit will be shown in actual operation and all working procedures explained in detail.

Completes Research Lab

Litho Chemical & Supply Co., 46 Harrier Place, Lynbrook, L. I., has announced the completion of a research and control laboratory occupying approximately 3,500 sq. ft.

Equipped with modern chemical devices and equipment, the laboratory will be used to formulate new chemicals and to improve present ones used in the lithographic industry.

Howard Flint Changes Name

Effective July 1, the Howard Flint Ink Co., is changing its name to the Flint Ink Corp.

The new name was recently authorized and approved by the company's stockholders, and does not in any way indicate or involve a change in ownership or management.

Appoints Mediation Board

The Canadian minister of Labor has announced the appointment of a board to deal with a dispute between Midwest Litho, Ltd., and Modern Press, Saskatoon, and the Amalgamated Lithographers of America, local 65. Approximately 25 employees are affected.



COLOR PHOTOGRAPH BY ANTON BRUEHL

Even pills are getting gay!

But it's not "for pretty" that these pills come in so many colors and color combinations. Color aids identification for doctors, for druggists, for patients.

Nothing identifies like color. Nothing attracts like color. And these facts can be so easily, usefully

applied to your business. HOWARD BOND, in its many clean, clear colors, offers those values: in business forms, so easy to identify that they hustle the job; in special announcements that pop from a routine pile of papers; in all kinds of business printing that gets an extra free in-

terest-boost when the paper itself is another color.

See a HOWARD BOND sample book. Put the HOWARD "rainbow" to work doing jobs that only color does best. Ask your printer or paper merchant.

PRINTERS! This message appears in advertising magazines read by your customers.

HOWARD PAPER MILLS, INC. • HOWARD PAPER COMPANY DIVISION, URBANA, OHIO

Howard Bond

"The Nation's

Business Paper"

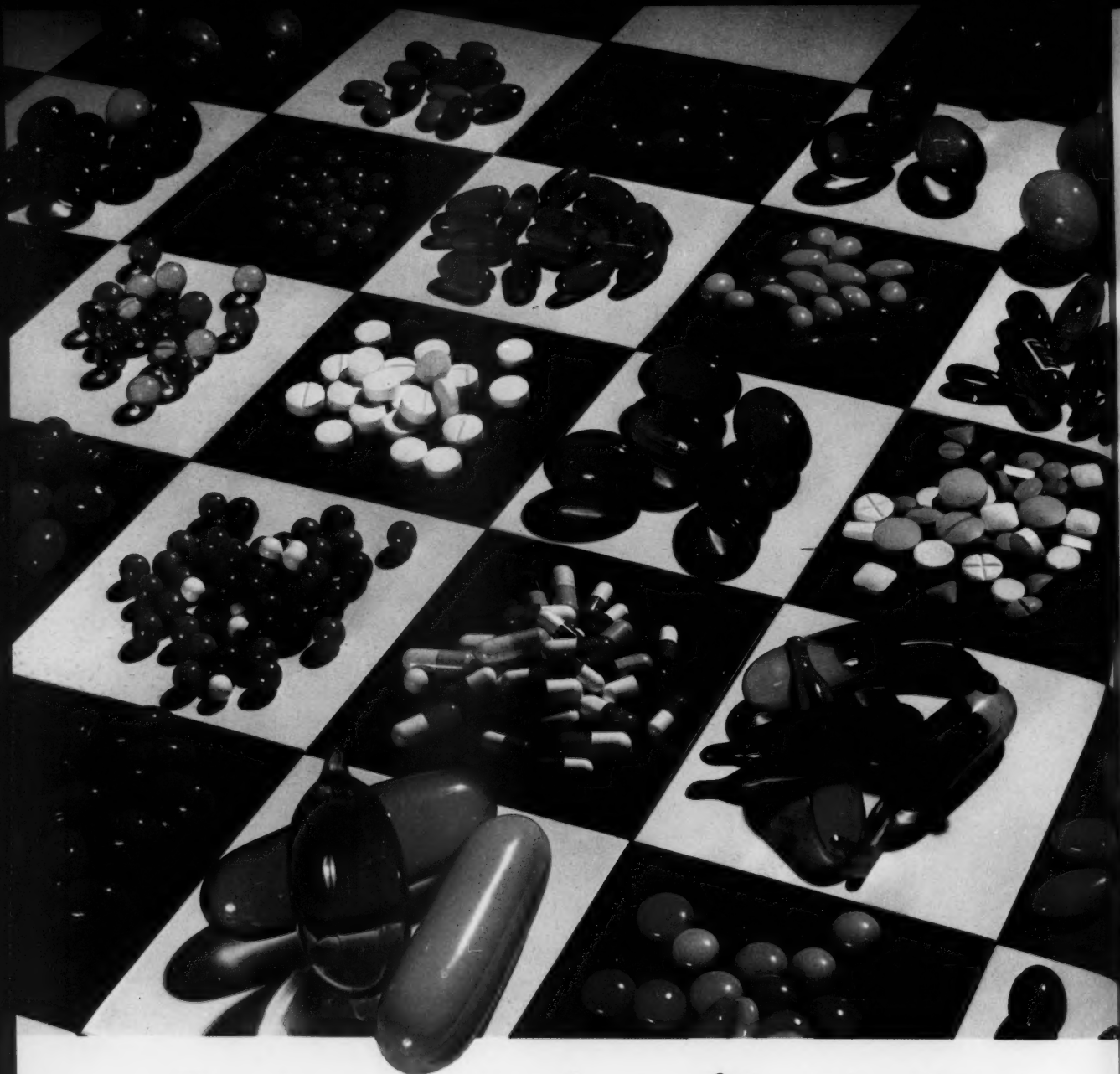
Companion Lines: Howard Ledger • Howard Mimeograph

Howard Duplicator • Howard Posting Ledger

Printed on Maxwell Offset



Basis 80—Maxtone finish



Doesn't color reproduce better on Maxwell Offset?

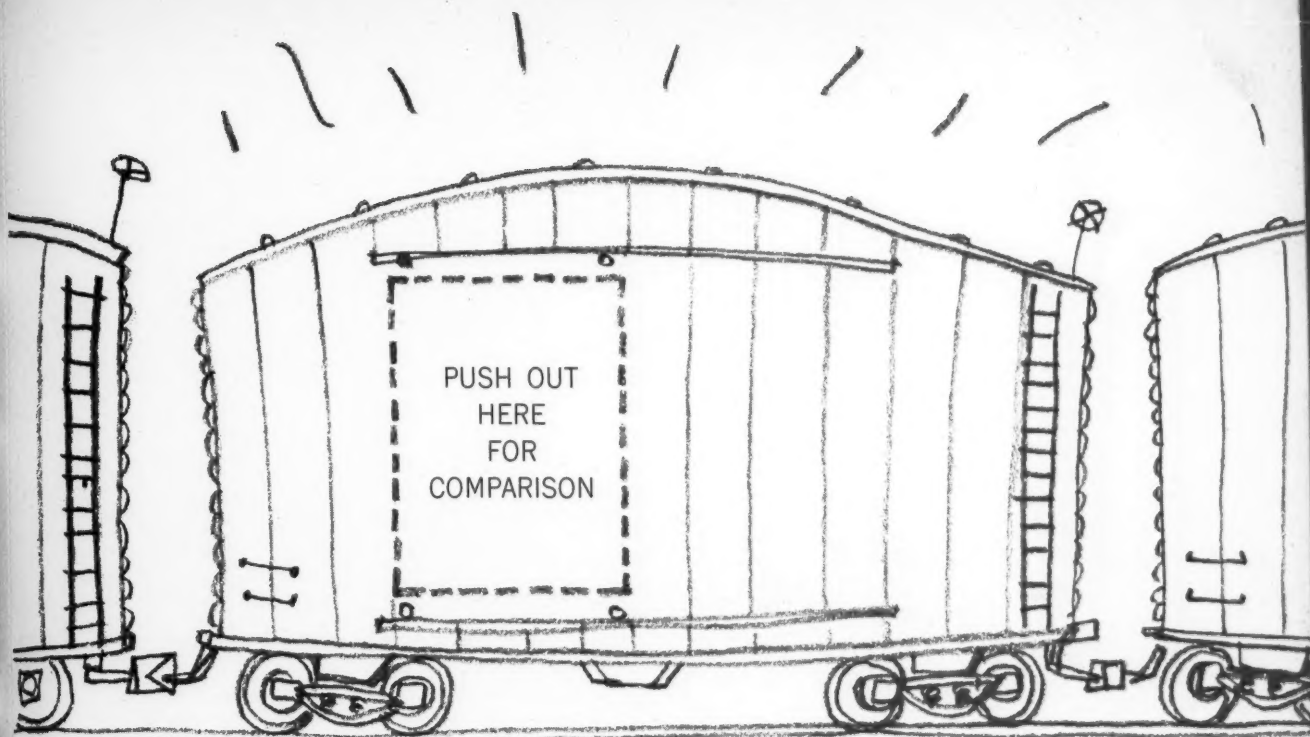
Howard Paper Mills, Inc. / MAXWELL PAPER COMPANY DIVISION / Franklin, Ohio

We'd be pleased to send you samples of our eight finishes and two tints

Printed on Maxwell Offset—Basis 80—Maxtone finish

COLOR PHOTOGRAPH BY ANTON BRUEHL





CARLOADS OF SALES OPPORTUNITY IN **CALCOFLUOR-TREATED** PAPER!

The brilliant whiteness imparted by CALCOFLUOR led Pan American World Airways to order 12 CARLOADS of treated stock for its 1959 calendar! To see why...push out the perforated area above and slide your present paper underneath for comparison. There's a convincing improvement when the paper contains

CALCOFLUOR* WHITE
.....

(see other side)

In this picture Mr. Harrington is discussing handling of art for the Pan Am calendar with Louis M. Prudhomme, left, Manufacturing Processing Assistant.

Are you producing papers that can compete in quality printing markets...meet the growing demand of printers and their customers for whiter, brighter papers? More and more paper manufacturers are using CALCOFLUOR White PMS Conc.—Cyanamid's low-cost fluorescent whitening agent (available in powder or solution). Why don't you? For more information...ask your Cyanamid Dyes representative for the Technical Bulletin, "Dyeing Paper White" or write to Cyanamid.

*Trademark

CYANAMID
AMERICAN CYANAMID COMPANY
DYES DEPARTMENT
Bound Brook, New Jersey

New York • Chicago • Boston • Philadelphia
Charlotte • Providence • Atlanta • Los Angeles
Portland, Oregon



Calco
Symbol for Quality Dyes

"Pan American naturally required the ultimate in color reproduction quality for their world-famous calendar. That's why we recommended a calendar stock treated with CALCOFLUOR in preference to all others. Its extra sparkling whiteness promised—and delivered—a truly outstanding job."

—says Mr. Stephen H. Harrington,
Assistant to the President,
Brown & Bigelow
St. Paul, Minnesota





for brilliant color reproductions . . .

**BECKETT
BRILLIANT
OPAQUE**

THE ANGELFISH

The illustration on the face of this insert shows the colorful Queen Angelfish. There are several different species of angelfish. Generally they are characterized by patches of vivid color and large wing-like fins, from which they derive their name. They are medium-sized, robust fish, have small mouths and fine, brush-like teeth. Some varieties reach a length of four feet and certain species are delicious eating. The angelfish has become a symbol of Bermuda although it is found in coral reefs in West Indies waters and along the Atlantic Coast from Florida to Brazil.

BECKETT BRILLIANT OPAQUE

is a titanium-filled, premium quality stock, noted for its sparkling, clear whiteness and its singular freedom from show-through. It is offered in five weights, is surface-sized, and can be supplied in a wide variety of embossed finishes.

BECKETT BRILLIANT OPAQUE COVER

is the companion cover stock. It is offered in four weights and in all the finishes available in the book paper weights. Complete catalog of cover and book paper weights furnished on request to your nearby Beckett distributor.

THE BECKETT PAPER COMPANY

MAKERS OF GOOD PAPER IN HAMILTON, OHIO, SINCE 1848

This is BECKETT BRILLIANT OPAQUE, Coral finish, 80 lb.

Book Review

THE LITHOGRAPHERS MANUAL, Volume 2. Victor Strauss, Editor, Waltwin Publishing Company, 317 West 45th Street, New York 36, New York. \$25 for both volumes, plus \$1.50 shipping charge east of Mississippi, \$2 west.

THE eight chapters of Volume 2 of the *Lithographers Manual* complete the coverage of the lithographic process with the same thoroughness, attention to detail and clarity noted in Volume 1 (see review, April MODERN LITHOGRAPHY, page 51).

The opening chapter, compiled and written by Charles Shapiro, educational manager, LTF, is devoted to lithographic presses and presswork from the fundamentals of press construction to the finer points of press operation, maintenance and pressroom safety. The resources section lists the major pressroom supplies and accessory equipment. An integral and valuable portion of the chapter consists of the press instruction manuals for the popular models of ATF, Harris, Miller, Miehle and Consolidated Pearl offset presses. The completeness with which offset presses and presswork are treated may be judged by the fact this one chapter alone takes up virtually half the book.

Another information-packed chapter is the one dealing with ink and paper. What the practising lithographer should know about the fundamentals of ink and paper and their handling in everyday production is skillfully presented. Among the well known authorities who have extended their experience and knowledge to this chapter are, Robert F. Reed, L. M. Larsen, G. R. Sears, C. V. Morris and staff members of the S. D. Warren Co. The resources section describes a number of instruments for measuring ink and paper characteristics.

Such finishing operations as binding, bronzing, embossing, varnishing, diecutting, mounting and folding box construction are detailed in chapters 14 and 15.

Since the customer-printer relationship is no small part of any successful business, the manual devotes a chap-

ter to trade customs, cites notable court cases and their decisions, and gives an outline of suggested selling terms and trade practices.

The importance of education within the industry is stressed in a following chapter which also lists the training facilities (trade schools) throughout the country. The concluding chapter lists the national graphic arts trade and technical associations and reviews the aims and activities of each.

A 15-page glossary of terms, a 10-page bibliography, and a listing of contributors to the Manual round out Volume 2. The latter items entitled "Who's Who in the Lithographers' Manual," could be rightly called a "Who's Who in Lithography." Such an array of outstanding lithographic personalities, many with a world wide reputation, lends an air of undisputed authority to this work.

One could go on praising this set of books, but space does not permit. The LITHOGRAPHERS MANUAL is unique among books on the subject for many reasons. It treats its subject with thoroughness. The bulk of the text is practical, how-to-do-it information for which the reader can find immediate and profitable application. The novice who needs a primer, the craftsman who wants a reference source for everyday problems, or as a "bible"

for management personnel, will each find the Manual adaptable to his needs.—H. P. P.

Porter Named ATF Sales Mgr.

John T. Porter has been appointed sales manager of the sheet-fed division of American Type Founders Co., Inc., Elizabeth, N. J. He had been assistant manager of the division since November 1956.

Starting with the company in 1948, Mr. Porter has held such posts as manager of the department of education and assistant sales manager of the web press division. Prior to joining the company he taught graphic arts in several California colleges and had practical experience in both lithography and letterpress.

Forms New Sales District

Intertype Co., a division of Harris-Intertype Corp., has established a new four-state district with headquarters at 55 Public Square, Cleveland. The area will include Ohio, West Virginia, and western New York and Pennsylvania.

William R. Evans has been appointed manager of the district. He has been with the company since 1953, serving western Pennsylvania and West Virginia.

DRUPA Exhibit Successful For Consolidated

Consolidated International Equipment & Supply Co. has reported that it sold "many cameras" at its Drupa exhibit, including two display models which are being installed at Springer Verlag, Hamburg, one of Europe's largest publications printers.

Among the products displayed by the firm were various cameras, photo composing machines, offset presses,

space cutters, three-knife trimmers, proofing presses and metal decorating presses.

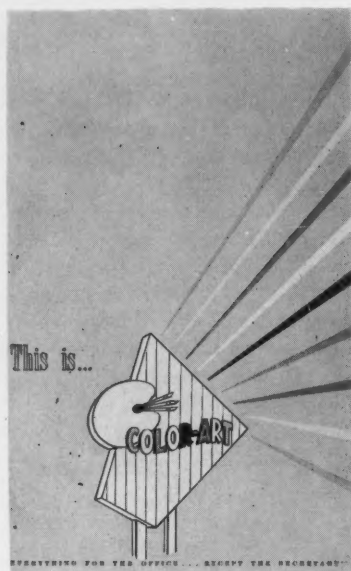
Featured in a simulated darkroom display were the company's new automatic roll film camera, 31" precision color camera and the Universal 27 x 41" Multineg step and repeat negative and photo composer for both film and offset plates.

Consolidated Booth at Drupa



Produces Unusual Booklet

Color Art Printing Co., St. Louis, has produced an unusual self-advertising piece that describes its complete facilities and services. Produced



by offset, the booklet utilizes 80 lb. text stock and 100 lb. cover stock. Color Art did the whole job from art work to binding.

Each page of the book uses a different color paper which gives the impression that it was printed in many colors instead of two.

The booklet, pictured above, is getting "tremendous" response, the company reports. Each copy is mailed with a personal letter signed by the salesman on the account.

To Hold Letterpress Forum

New developments in letterpress and methods for more efficient use of the process will be demonstrated by closed-circuit television during an all-day forum at the Hotel Statler in New York, Sept. 27.

The forum, expected to attract over 1,000 printers, is being sponsored by the International Club of Printing House Craftsmen, Printing Industry of America, and the Research and Engineering Council of the Graphic Arts Industry.

Handling on-the-spot arrangements are the Club of Printing House Craftsmen of New York and the letterpress division of the New York

Employing Printers Association. A joint committee from these organizations has been working with printing equipment manufacturers for almost a year to arrange as complete a survey of letterpress developments as can be presented in one full day.

The program will include a series of demonstrations including such equipment as the Klischograph black and white and 4-color platemaking machine, the duPont photopolymer printing plate, the electronic scanner,

methods of powderless etching and latest techniques of mechanical make-ready.

The closed-circuit television arrangements are designed to give every participant a close-up view of the new equipment, some of which will be publicly demonstrated for the first time.

Questions concerning the forum should be addressed to the Letterpress Forum Task committee, 461 Eighth Ave., New York 1.

LNA Sales Managers Meet

The problem of recruiting and compensating sales personnel in the lithographic industry was the subject of the first in a series of regional conferences sponsored by the sales management committee of the Lithographers National Association.

The luncheon-conference, held in the form of a seminar for sales management personnel, took place at New York's Warwick Hotel, June 12.

LNA director Jack Osborn, president of Forbes Lithograph Mfg. Co., and chairman of the sales management committee, conducted the conference. Speakers included Albert Soman, Brett Lithographing Co.; and John Lambie, U. S. Printing & Lithograph Co.

Mr. Soman discussed recruitment and training from the standpoint that salesmen are a mirror of the industry. Commenting that plants have been deficient in attracting the right type of sales personnel, he offered a plan designed to attract eligible personnel from colleges and universities.

Mr. Lambie covered the broad area

of sales compensation now current in the industry. Describing his company's success in that area, he suggested steps other lithographic plants could take to improve present methods.

The speaker proposed that the LNA sales management committee appoint a sub-committee to evolve a sales recruiting program that would bring a constant flow of top-rank talent into the industry in the New York area. He said that the sub-committee, by volunteering 3½ days of its time, could practically blanket the colleges and universities in the New York area and give the students a true picture of the industry and what it has to offer.

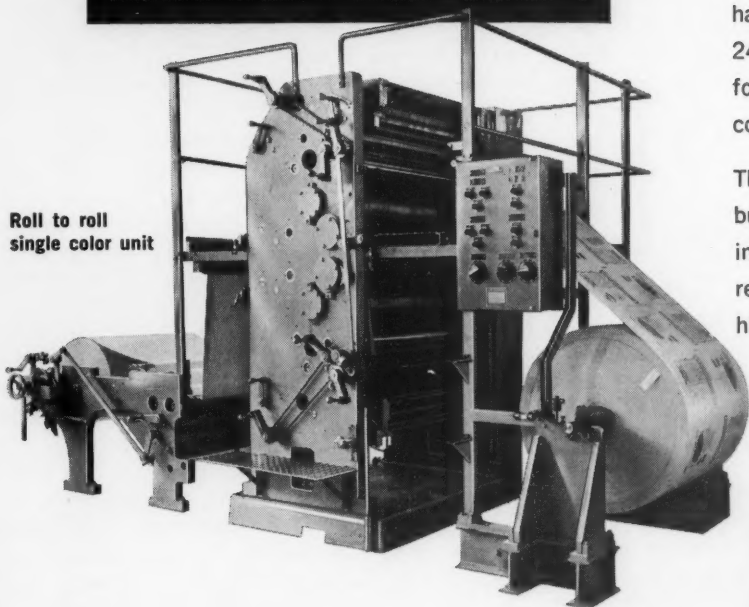
He said he preferred an incentive compensation plan where the salesman's commission is tied directly to the profit value of sales because it makes the salesman "profit conscious." He stated that this plan "gives the salesman a stake in the business that makes him a little more aggressive in going after volume. It has the advantage of letting him know in advance what his profit will be."

Lithographic sales managers at the first New York area sales conference sponsored by the Lithographers National Association June 12, at the Warwick Hotel in New York. Thirty-two sales management representatives of LNA member plants attended the session, which will be repeated in other areas of the country during the year.



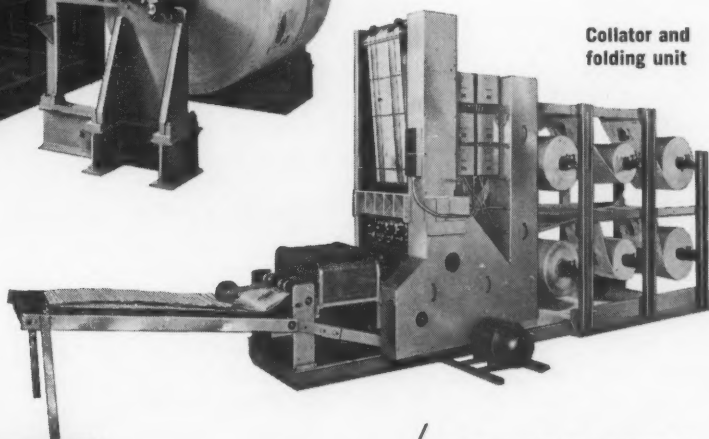
SEE...
*an Outstanding
 Example of
 Fine Offset Printing
 by the
 Portland, Indiana
 Graphic*

Roll to roll
 single color unit



Get the facts about this NEW
 type web-fed press that is
 revolutionizing newspaper
 printing. Illustrated literature
 available upon request.

Collator and
 folding unit



**PRODUCED ON A HANTSCHO
 ROLL FED 22 $\frac{1}{2}$ " x 36" LITHO
 PRESS . . .** Clarity of half-tones
 will amaze you . . . They're "Fine
 Magazines" quality, yet printed on
 standard news print paper—Get a
 copy (from us) of this outstanding
 tabloid . . . examine every page . . .
 display ads, classified, editorial copy
 —Note the freedom from smudge or
 ink clogging and see how easily even
 the smallest type can be read!

This Hantscho Roll Fed Litho Press is
 ideal for suburban and community
 newspapers and tabloids. Press
 speeds up to 20,000 impressions per
 hour...and with collator and folder,
 handling up to 6 webs, delivers up to
 24 tabloid pages plus one quarter
 fold at speeds from 5000 to 6000
 complete papers per hour.

The Graphic uses a 36" web width,
 but this same press can be supplied
 in 18" web width to lithograph and
 rewind a 4 page tabloid at the same
 high speed.

GEORGE

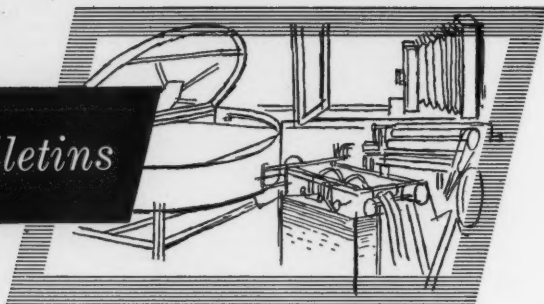
Hantscho

CO., INC.

602 SOUTH 3rd AVENUE
 MOUNT VERNON, N. Y.

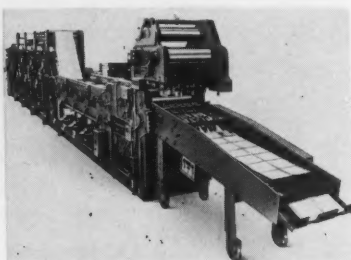
MIDWEST REPRESENTATIVES:
 153 WEST HURON STREET
 CHICAGO 10, ILLINOIS

Equipment, Supplies, Bulletins



New Press From Hamilton

The Hamilton Tool Co., Hamilton, O., has introduced a 17x25" dry off-set perfecting press for snap-out and



continuous business forms production which processes five webs simultaneously.

The press is said to print, punch, number, perforate, slit, and collate with carbon paper as required, then either cut off, count and deliver snap-out forms or zig-zag, fold and deliver continuous forms.

Automatic paper in-feed, web tension and numbering controls are among the features of the press which can operate at speeds of 400 web feet per minute and faster. Registration is accomplished by remote control push button.

Further information on this or other Hamilton continuous web forms printing presses may be obtained from the company, 866 South Ninth St., Hamilton, Ohio.

Offers Color Printing Guide

A handy guide, designed to take some of the guesswork out of color printing on Kodak color print material, Type C, is being offered without charge by the Eastman Kodak Co.

The guide provides a step-by-step technique for obtaining the best printing results either with color

printing acetate filters above the negative, or color compensating filters below the enlarger lens.

Copies of the guide, entitled, "Simplified Type C Color Printing," E-53, can be obtained by writing to the company's sales service division, Rochester, N. Y.

Names New Distributors

R B & P Chemical & Supply, Inc., Milwaukee, has announced the appointment of three new distributors for its line of deep etch, surface and wipe-on lithographic processing chemicals. They are T. K. Gray, Inc., 108 1/2 Hennepin Ave., Minneapolis; Graphic Plate Graining & Supply Co., 7631 Jos. Campau, Detroit; and Randall F. Knight, Route #4, Bonifay, Fla.

Offers Folder on Chief 29

An eight-page folder describing the ATF Chief 29 offset press now is available from American Type Founders Co., Inc., 200 Elmora Ave., Elizabeth, N. J.

The Chief 29 handles a maximum sheet size of 23 x 29" and incorporates the improved ATF dampening system.

New Offset Paper

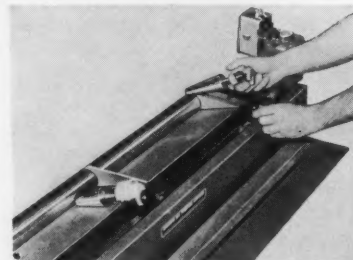
Union Bag-Camp Paper Corp., New York, has introduced a new line of fine papers which includes Williamsburg offset paper.

The new line is part of a \$24 million expansion program recently completed at the company's Franklin, Va., operation. Production facilities there include four paper machines and a 400,000 sq. ft. finishing room.

The company has started an extensive advertising campaign to introduce the new line.

New Ink Agitator

William Gegenheimer Co., Inc., 80 Roebling St., Brooklyn, is offering a new Baldwin ink fountain agitator



that adapts to split-fountain work with exceptional ease. Pictured is the Baldwin cone, said to be one of the more popular features of the agitator from pressman's point of view.

The company reports that because it push-feeds even the heaviest bodied inks to the fountain roller, pressmen not only can start a job with less ink, but can use an ink that needs less "doctoring" to give them the color they want.

Kaiser Offers Litho Sheets

Kaiser Aluminum & Chemical Sales, Inc., has made available up-graded mill finish aluminum sheet for the offset printing industry. It will be available in gauges from .012 through .029" in all lengths and widths most commonly used in the trade.

The manufacturers report that aluminum sheet has many advantages over other metals used for the same purpose. Among these are lighter weight and lower cost, a surface which can be grained finer than other metals, and the fact that a copper film can be deposited on the positive printing image of the aluminum litho sheet without electroplating.

UNIFORMITY



Pedini

For trouble-free press performance...specify Consolidated Double Coated Offset Enamels

Maximum uniformity is just one of many improved performance features resulting from Consolidated's double coating of offset printing papers. You get greater stability and superior pick resistance, too. All add up to better runability—better results.

What's more, you get these important double coating advantages in every Consolidated grade *at no extra cost*—PRODUCTOLITH, CONSOLITH GLOSS and CONSOLITH OPAQUE.

Free trial sheets are available from your Consolidated Paper Merchant. Compare performance and cost with any offset paper you are now using. You'll see how

Consolidated Double Coated Offset Enamels offer top values in quality and trouble-free performance!

Available only through your Consolidated Paper Merchant

Consolidated

ENAMEL PRINTING PAPERS
a complete line for offset and letterpress printing
CONSOLIDATED WATER POWER AND PAPER COMPANY
SALES OFFICES: 135 S. LA SALLE ST. • CHICAGO 3, ILL.



Acme Color Separator, new electronic scanner introduced by Acme Teletronix, division of NEA Service, Inc., Cleveland. It will make either three-color or four-color separation, positive or negative, from color transparencies or original paintings.

New Acme Electronic Scanner

AN electronic scanner which took more than 17 years to develop was introduced to the graphic arts last month by the Acme Teletronic Division of NEA Service, Inc., Cleveland. Called the Acme Color Separator, it is designed to offer better, faster and less expensive color for newspapers, magazines and all types of color printing, company officials report.

The first commercial Acme separator has been purchased by the *Buffalo Courier-Express* for its subsidiary, Niagara Photoengraving Co. It is believed that the *Courier-Express* is the first American newspaper to produce editorial and advertising color in its own plant by use of electronically-produced separation film. A similar machine is engaged in regular daily production work in the NEA plant.

The *Courier-Express* has built a new color laboratory to house the separator and process the separation films.

"We want to use much more color, both editorial and advertising," said Howard Clothier, treasurer of the

Buffalo newspaper, "and we are counting on the speed and efficiency of the separator to give us the faster production which will make the increased volume possible."

The Acme separator can produce three or four-color separations which can be either positive or negative on film. It will make separations from original color pictures up to 8 x 10", either transparencies or opaque copy. Scanning time for an 8 x 10" picture is about 30 minutes. Two 4 x 5" pictures occupy one-half of the transmitting drum and can be scanned in a total of 15 minutes.

Final separations are fully corrected, including removal of unwanted undercolor and compensation for deficiencies in inks and paper, the company reports. Use of the separator reduces the amount of time necessary to produce corrected separations and also eliminates most of the hand staging and re-etching which is required on the engraved plates under conventional methods.

The machine consists of a scanning drum and four recording drums on a common shaft. The scanner breaks

up the original picture into lines and simultaneously divides each line into tiny blocks which can be observed by photo electric cells and filters. An electronic computer analyzes each tiny element of the picture, measures the amount of each color in each spot, computes the amount of correction to be applied to each color, and passes this information along to the recording lamps which lay down on each separation film the proper amount of density representing each color. The scanner spends only 1/2700th of a second looking at any single picture element.

Introduces 'File-O-Matic'

A new offset plate and film storage system with record and file control is being offered by nuArc Co., Inc.

Called "File-O-Matic," the units are available as cabinets, wall brackets, hanging brackets or floor dollies.

There are two sizes of cabinets each for 10 x 16", 17 x 22" and 14 x 20" plates. One has 100 hangers and the other 200. The wall and hanging brackets have 100 hangers and the floor dolly 200.

An illustrated brochure, #700, containing additional information and prices is available from the company, 824 S. Western Ave., Chicago 12.

Varn Publishes New Catalog

A new catalog listing the 20 products it manufactures has been published by the Varn Products Co., Inc., 26-15 123rd St., Flushing 54, N. Y.

The catalog places special emphasis on Varn gum arabic solutions, blanket and roller washes and non offset sprays.

The two-color catalog was lithographed on 80 lb. coated cover stock. Copies are available on request from the company or any of its 97 dealers throughout the United States and Canada.

Beckett Issues Sample Book

The Beckett Paper Co., Hamilton, O., has announced completion of a sample book on its Beckett Cover stock. The book, which contains 24 samples swatches, has a four-color process lithographed cover.

C.P.P.

... a man who saves you
time and money!



**CERTIFIED
PROFESSIONAL
PLATEMAKER**

Jim Jobson of Fotoplates, Atlanta, checks development of a 22 x 34 3M Plate processed with new 3M Brand Image Developer. This advanced developer gives platemakers wider working latitude and results in faster, more positive development of the image.

Excellence of lithography *depends on the plate* ... and in your area there's a craftsman whose *only business* is platemaking. He's your *3M CERTIFIED PROFESSIONAL PLATEMAKER ... a specialist whose years of experience guarantee perfection in making plates that faithfully reproduce the most subtle details of line and halftone copy.

His service saves you time and money. You get perfectly consistent 3M Brand Plates that

produce truly superior quality. C.P.P. service means greater customer satisfaction—more repeat business for you!

To give you top value for your production dollar your C.P.P. recommends 3M Brand Photo Offset Plates. Perfectly-smooth 3M Plates are the result of years of research that give you the double barreled advantage of unbeatable reproduction qualities and trouble-free performance on the press.

look for this symbol—your assurance
of the best in platemaking.



3M Photo Offset Plates

"3M" is a registered trademark of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota. General Export: 99 Park Avenue, New York 16, New York. In Canada: P. O. Box 757, London, Ontario.

MINNESOTA MINING AND MANUFACTURING COMPANY

... WHERE RESEARCH IS THE KEY TO TOMORROW



A combination sink and viewer designed and introduced to the graphic arts industry by H. Schmidt & Co., Chicago.



Sink, Viewer in One Unit

H. Schmidt & Co. has introduced a combination sink and viewer that enables the washing, etching and clearing operations to be done on the same piece of equipment. The unit is part of the company's "Champion" line.

The wash sink portion of the unit features continuous back-splash and front and end aprons of heavy stainless steel.

The viewer portion has a hinged top made of clear polished glass, a water tight steel frame and soft-white lighting that furnishes balanced illumination over the entire viewing surface. Separate switches control the fluorescent lamps and the red safe-light.

Further information on the sink is available from the company, 317 So. Paulina, Chicago 12.

Gans Develops New Gold Ink

Gans Ink and Supply Co., Los Angeles, has developed a new bronze-metallic gold ink which they say will run well on any type of offset press with no special handling and print on nearly any type of paper.

Called Offset Coronet Gold, the ink is available as a paste or varnish in three shades—rich, pale and richpale. It is the same type of gold used in letterpress.

The company reports that the gold is not as stable as regular offset ink, but as long as it is not overloaded it will run well. It reproduces best on coated and label papers but favorable

results have been obtained on a variety of other stocks including even antique finishes. On Kromekote or Lusterkote papers additional drier and binder may be added in small amounts.

Copper-aluminum or grained aluminum plates seem to work best, the company states, but pre-sensitized plates are acceptable. Zinc plates will wear out on long runs in some cases.

When using the inks, makeready under normal conditions starting with a spare amount of gold. Run a normal amount of water. The etch can be strengthened if necessary. Gradually increase the amount of gold until a greasing stage is reached and then cut back the amount of ink a notch and run. Coronet Gold dries rapidly and if makeready time is of some length use a yellow ink for this part of the process.

The ink will tend to rub off a bit at first, but will bind well to the paper in a day or so. However, the sheets can be handled and turned at once, the company reports.

Additional information is available from the company, 621 East Third St., Los Angeles 13.

Offers Brochure

Parsons & Whittemore Graphic Corp., distributors of Cerutti rotogravure presses, is offering two new brochures describing various models of the Italian-made line of printing equipment. Copies are available from the company, 250 Park Ave., New York 17.

New Army Developments

A multiplex reduction printer, suitable for preparing multiplex diapositives from aerial photographs taken with either a six-inch Metrogen or distortion free lens, has been developed by the Corp of Engineer's Research and Development Laboratories, Fort Belvoir, Va.

The reduction printer is basically distortion free but may be converted to correct for nominal Metrogen distortion by the addition of an aspheric corrector plate to the system.

The Army also has disclosed the development of a cartographic grid-ruling instrument capable of producing rectangular grids of high accuracy and suitable for field use in compiling maps.

Now undergoing service tests, the instrument is designed to decrease the time required for drafting rectangular map grids while increasing the accuracy of constructed grids.

Exhibit Marks 100th Year

Klimsch & Co., Frankfurt-Main, marked its 100th anniversary with an exhibit at DRUPA in May that contained 10 process and cartographic cameras and 25 other pieces of reproduction equipment.

Featured was the Klimsch Admiral 20 x 24" which has the camera back, lensholder and transparency holder suspended from a horizontal overhead bed while the copyholder travels vertically.

Detailed information on the Klimsch line can be obtained from Repro Graphic Machines, Inc., 180 Varick St., New York 14.

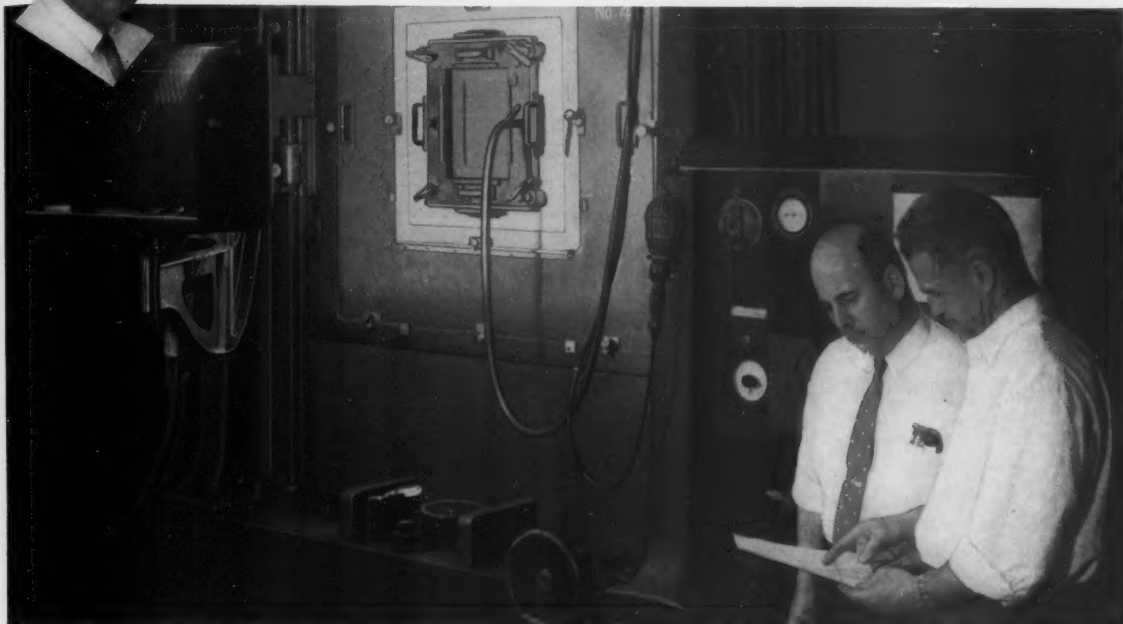
Offers Paintings

The American Artists Group, 106 7th Ave., New York, has announced the opening of the Treasury of Colorplates, a new division through which it will make available paintings and watercolors by more than 150 American painters for advertising and public relations purposes.

The collection consists of more than 4,500 sets of plates on varied subjects. Any painting selected will be reserved for the advertiser exclusively for one year.

"We sell perfect register"

says Joseph Medio, Superintendent, Brett Lithographing Co., Long Island City, N.Y.



"Hairline accuracy is our stock-in-trade, and with our two Rutherford Photo-Composers we get it consistently"

Mr. Medio and plate foreman, Vincent Hauck, are pleased with the color proofs turned out by their company, one of the largest lithographing firms in the East. Register marks for the various colors are superimposed so closely, you can't tell them apart. Let Mr. Medio tell you why Brett turns out such high quality work.

"Take the vacuum on our Photo-Composer," Mr. Medio says. "It really draws the work up tight. That's why we get perfect dot structure in our half-tones. We like the composer's automatic features, too. The operator can't put the lights on until the work is exactly positioned and the vacuum is on. Our step and repeat work is 100% accurate . . . thanks to Rutherford."

Though both of Brett's composers have been in constant use for over 13 years, neither shows any sign of wear . . . both still hold their accuracy down to .001" . . . both are as trouble-free as the day they were purchased. Joseph Medio knows that precision lithography and long-run economy start with Rutherford photo-mechanical equipment. Why don't you find out how the consistent accuracy and rugged dependability of Rutherford equipment can pay big dividends in your plant?

For full details about a Rutherford Precision Camera or Photo-Composing Machine write, wire or phone today



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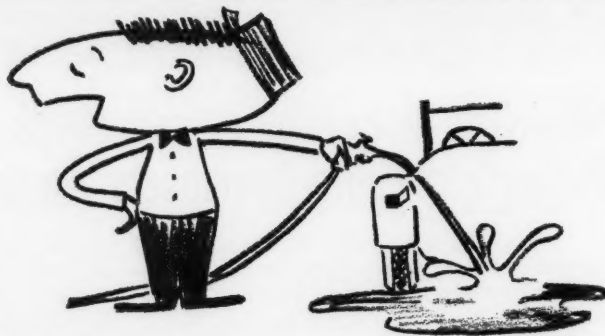
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With Baldwin Water Levels, you can *stabilize* fountain settings and provide just the right balance of ink and water because the fountain-solution level is maintained constantly, *automatically*.

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have the story of how Baldwin Water Levels contribute to work of higher quality at lower cost on both small and large presses, no matter what the size of the run. *That's* why they're so popular!

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New Quillo Script Styles

Eight new script styles have been added to Quillo hand-lettering alphabets, transparent, self-adhesive lettering alphabets in which the script



characters fit together automatically. Also added to the line are 31 reduced sizes of present hand lettered styles.

The scripts consist of upper and lower case, points and numerals. The various alternate characters available are shown above in reduction.

Further information is available from Advertising Aids Co., 57 So. 4th St., Minneapolis 1.

Kodak Offers Booklet

An eight-page booklet, "Kodak Materials for Color Photography,"

has been released by the Eastman Kodak Co. The publication includes data on Kodak color films, processing chemicals and materials for color printing.

A copy may be obtained without charge from the sales service publications department of the company, Rochester, N. Y.

Two New Products from GAE

Graphic Arts Engineering Associates of Elizabeth, N. J., has announced the development of a new register wheel and dampening control mechanism for offset presses.

The register wheel assembly is designed for all ATF Chief offset presses and any sheet-fed offset press that uses a three-point register system. It features a full 1/2" micrometer adjustment range that enables the pressman to set the wheels for hair-line adjustment while the press is running.

The dampening control unit, called the GAE Electro-Water Drive, is an electronic conversion and control system for use on both sheet-fed and roll-fed offset presses.

Announces New Metallic Inks

Alchemic Offset, a new line of metallic inks for offset, has been developed by Seaboard Printing Inks, Inc., of Philadelphia and New York.

Available in eight hues of gold and one of silver, the ink is being offered in a trial one-pound can to lithographers at \$4.50 including a color swatch book and complete instructions.

New Label Finish

A new label finish called U-S Super-Glaze was introduced by the United States Printing & Lithograph Co. at the National Packaging Exposition in New York late in May.

The new finish is said to be more lustrous and reflective than standard varnish coatings.

Develops New Sink

Bar-Plate Manufacturing Co., Orange, Conn., has announced the availability of a new developing sink called the Bar-Plate Imperial.

The sink includes large storage shelves, tray holders for four full size trays and a 20" double swivel spout.



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First with the Leaders in the Field

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AMERICAN OPTICAL COMPANY

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"CHAMPION" Improved Deep Etch DOWN-DRAFT Lithographers Work Table

Completely eliminates
ALL HAZARDOUS FUMES

Check these advantages:

- ✓ Removes all hazardous fumes at their source—no odor in shop and offices.
- ✓ Table at convenient working height.
- ✓ Exhaust slot removes contaminated air through slot all around perimeter of working area at high velocity.
- ✓ Acid resistant KOROSEAL lined disposal pitches to a KOROSEAL lined 2" drain.
- ✓ Processing of plates on an everlasting smooth surfaced slate slab.
- ✓ Large heavy duty ball-bearing type built-in suction blower operates quietly.
- ✓ Increases production.

4 POPULAR SIZES (Other sizes upon request)

| No. | Slate Slab | Overall Dimensions (All 33½" High) | Exhaust Blower Capacity: Cu. Ft. Air Per Minute | Motor H. P. |
|-----|------------|---------------------------------------|---|----------------|
| 1 | 30" x 40" | 42" x 50" | 2500 | 1 |
| 2 | 42" x 50" | 54" x 62" | 3200 | 1½ |
| 3 | 50" x 60" | 62" x 72" | 4200 | 1½ |
| 4 | 60" x 80" | 72" x 92" | 4800 | 2 |

"CHAMPION" Improved TEMPERATURE CONTROLLED Developing Sinks

- Refrigerated by hermetically sealed water-cooled condensing unit.
- Full length back splash and tray disposal trough.
- Heavy polished stainless steel, type 316, heli-arc welded.
- Fiberglass insulation.
- Storage compartment has its own thermostat.
- Attractively finished.
- 18" Double-Swivel soft flow mixing faucet services all trays.
- Expert Craftsmanship.
- Easy Access to refrigerating unit and automatic control.
- Automatic light in storage compartment.
- Service light in center compartment.
- Wash tray slides to desired location, drains into rear trough from any position.



Available with attached wash sink and negative viewer.

CONVENIENT TRAY DUMPING

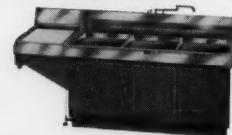
Note how easily used solution is disposed of in full length drain trough. Saves time, promotes cleanliness and eliminates hazardous carrying of trays.

RAISED DIMPLES

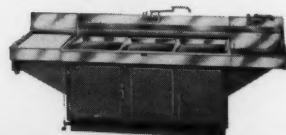
in sink bottom are provided for supporting small trays.



WITH ATTACHED WASH SINK



WITH ATTACHED NEGATIVE VIEWER



WITH WASH SINK AND VIEWER

**TEMPERATURE
MAINTAINED to a
FRACTION of a DEGREE**

**3
popular
sizes**

| Style | Film Size | Space Req. |
|-------|-----------|------------|
| No. 1 | 20" x 24" | 32½" x 74" |
| No. 2 | 26" x 30" | 39" x 93" |
| No. 3 | 30" x 40" | 49" x 105" |

manufactured by **H. SCHMIDT & CO.**

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SEeley 3-0404



New LogiEtronic Enlarger

LogEtronic, Inc. has announced the addition of the model D-5 enlarger to its line of photographic equipment.

The model D-5 incorporates the LogEtronic principle which combines electronics and photography. It features automatic dodging and exposure control for black and white enlargements from negatives 35mm. up to 4 x 5".

Detailed information is available from the company, 500 East Monroe Ave., Alexandria, Va.

New Kraft Board

Development of an economical, white-coated kraft board has been announced by the Packaging division of Olin Mathieson Chemical Corp.

Called Omnikote, the new packaging material was developed after more than a year of intensive research.

BARGAINING

(Continued from Page 36)

the Amalgamated is trying to do is to circumvent several cases of the Supreme Court, and asks that the employer agree that his employee may, at his own discretion, refuse to cross a picket line. There are several pertinent cases, and it is held consistently that an employer has the right to discharge an employee who will not come across the picket line, but the union is asking you to forego that right.

Under the provisions for strikes and lockouts, the Amalgamated has something that is unique. It says, "The Union's right to strike or the employees' refusal to work, under paragraphs 1, 14, 16, and 17 hereof, are not subject to arbitration. The company agrees that in the event of any strike or work stoppage during the life of this agreement, there shall be no liability in any event on the part of the local union or any of its officers, agents or members, unless such action has been approved and ordered officially by both the local

and the international in accordance with their constitutional requirements."

That proposal means that you as an employer are going to sign a contract that is going to be binding on you just as long as the union desires it to be, because of the open-end clauses that are attached to all the provisions that I have discussed previously which grant the union in the event of disagreement the right to terminate the contract and go on

strike in 10 days. You have been asked to sign a contract which will be used solely as a whip over your head. There are so many provisions that are capable of interpretation as the interpreter wills it, that it would be impossible for you as management to know what you could do and what you could not do. At all times, then, you would be subject to a threat which is a very real and a very substantial one.

Two major proposals which the

GOLDENPLAST*

A new ORANGE masking plastic for layouts that

"HOLDS-TO-SIZE"

*GOLDENPLAST masking plastic — new formulated medium, replacing Goldenrod papers for those difficult "hard-to-register" jobs.

SEE THE DIFFERENCE!—Save Time—Save Money—today! Get GOLDENPLAST the orange masking plastic.

See the difference in features —

- Solves Misregister problems (in all climatic conditions)
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- Available in rolls too

Special production method makes GOLDENPLAST available at these competitive low prices—

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| Sheet Size <small>All sheets cut square and packed flat at no additional charge.</small> | Quantity per Package | Price | ROLLS |
|---|-------------------------|---------|------------------------|
| 20" x 27" | 100 | \$22.00 | 54" x 100 ft. \$ 25.00 |
| 24" x 27" | 100 | 30.00 | 54" x 200 ft. 48.00 |
| 27½" x 31" | 100 | 38.50 | 54" x 500 ft. 112.00 |
| 27" x 38" | 100 | 41.00 | |
| 30" x 40" | 100 | 48.00 | |
| 38½" x 54" | 50 | 41.50 | |
| 40" x 50" | 50 | 41.00 | |
| 42" x 54" | 50 | 45.50 | |
| 46" x 56" | 50 | 55.50 | |
| 48" x 60" | 50 | 62.00 | |
| 54" x 60" | 50 | 65.00 | |

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Amalgamated has made on a national basis, are the provisions to establish a National Apprenticeship Program to train apprentices in the industry, and secondly, to establish a Joint Research Fund to be run by management and labor. Here again, on the surface, nobody can disagree that we need more apprentices in the industry and that we need better trained apprentices. In regard to research, I don't think there is anyone who can say that at any given time we have had enough research and should stop.

Both of these proposals have a wonderful high-sounding, lofty approach and appear to be well worthwhile. However, you have to consider that those two lofty proposals that have been set forth on a national basis were devised by the very same individuals, and as far as I am able to ascertain, there are very few of them, who are now asking you to sign these control clauses.

Therefore, you have to go back and take another evaluation of the National Apprenticeship Standard Program and the Joint Research Fund Program. It is inconceivable that the two national proposals which, on their face, are very fine, could be altruistic if they had been made by the same people who now ask you to give up control of the lithographic industry. You have to analyze all three from the same point of view, and if you go into the National Apprenticeship Program, you are going to lose control, the control that does exist in some areas to a very considerable extent and in other areas to a lesser degree. You are going to lose complete control of the training of your apprentices.

If you go into the Joint Research Fund, you are going to find that where two people jointly run a fund, on an equal basis, one of them always has the power of veto. It can't be otherwise. If you go into the clauses whereby you are asked to give up the legal rights that the National Labor Relations Board affords you, you are going to give up control of your business. You are going to give ALA a complete veto power on where you will buy and to whom you will sell.

You will give the union the right to come in and tell you at almost any instance that you have violated this contract, and that the union therefore, within the provisions of Section a, b, c, or d, is terminating the contract and will strike in 10 days.

Now, I don't believe that there is any employer in the lithographic industry who can afford to operate under those conditions. You don't have individually the power or the strength that some of our large cor-

porations have — such as the automobile and steel companies who can take a strike on principle and can take it for a long period of time; who can go into negotiations knowing that at a certain point, they will have to stop and take a strike.

I personally don't want to see any strikes; I hope they can be prevented, but think that you have to take a very realistic approach to your future bargaining with the Amalgamated union and you have to take a very



Lets face facts

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Naturally they are. We have been manufacturing superior rollers, for every type of press, far longer than anyone else. Better than a century of producing the best rollers for our countless satisfied customers, from our strategically situated factories, has always been a source of satisfaction to us . . . and we trust to you . . . a quality product plus efficient service spells success . . . for both of us.

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LIGHTING FOR THE GRAPHIC ARTS

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Lower Power Requirements • Reduced Maintenance Costs
Daylight Color Balanced • Cleaner Light Source • Constant Light Output

Ascorlux is an historical milestone in graphic arts lighting... the result of years of painstaking research and development by a leader in the lighting field—The American Speedlight Corporation. Ascorlux is a complete system of electronic lighting which produces a daylight color balanced, high intensity, continuous light. It has been tested, approved and accepted as standard equipment by America's foremost lithographic organizations. This immediate and unqualified acceptance by seasoned cameramen offers conclusive proof that Ascorlux is by far the most efficient and economical system of lighting yet devised for the graphic arts industry.

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Ascorlux is sold and serviced throughout the United States and Canada by authorized Ascorlux Graphic Arts Dealers.

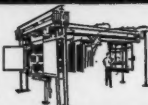
Write for an illustrated data sheet, outlining your own specific lighting requirements.

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APPLICATIONS



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CAMERA ROOM

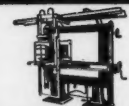


PHOTO COMPOSING



COLOR SEPARATIONS

stern and a very harsh one. You have to realize that it is out representing the Amalgamated, and not representing Management.

Now I may sound as if I am being very anti-union, but I certainly hope I am not, because I have never been anti-union. But I have been pro-management for the last 14 years, and I think I am going to continue to be that way for a long while in the future.

In conclusion, I would like everyone of you, as these new control clauses come up, to have them analyzed very carefully by someone who is skilled in the labor law, and, if it is deemed appropriate, to take the case into the National Labor Relations Board and to force and compel the Amalgamated to stop these demands which are going to result only in the complete control of the lithographic industry by a small group within the Amalgamated.★

PEOPLE

(Continued from Page 39)

back to the importance of people; people who will be able to understand and have the capacities to apply the benefits of research in our plants, reduce to practice the developments and finding of our research efforts.

The plant of the future will require the very best in chemists, engineers and mathematicians—people with a solid background of schooling in specialized fields, people with a know-how that exists only to a very limited extent in our plants of today.

A tremendous challenge lies before us. We will need to upgrade and further educate the people we have now, and *now* is the time to start.

Upgrade through specialized training every person you now employ who is capable and has the mental capacity and desire to move up and ahead.

Think ahead when you hire people. Consider what they will be doing and how they will be doing it five, 10 years from now. It depends on you and your ability to select the people with the brains to understand and use the techniques, the machines, the

instruments and the advanced processes research will bring to us.

Don't forget though that we, the people of the graphic arts industry, must supply the financial support to make it possible for research people to unlock the science of our industry's tomorrows.

There's another big area in "business is people" that we should think about—motivation of people. Some folks are calling it motivational management—the technique of getting employes to do things because they want to, not because they must.

To accomplish results, through all the levels of people in your business requires understanding—yes, an understanding of human beings—people. And when you get understanding, people will work with you as a team and share with you the objectives of management.

The power of persuasion is a great force. We use it in our advertising and selling—why not apply it to our workers? They are people too, and they will react favorably to persuasion. Try it—you'll find it is one of management's most effective tools.

Think of all the ways you can motivate the people in your company to work smarter and help you accomplish results you'll like.

Perhaps you have read this definition of a boy:

"A boy is a bank where you may deposit your most precious treasures—the hard-won wisdom, the dreams for a better world. A boy can guard and protect these, and perhaps invest them wisely and win a profit—a profit larger than you ever dreamed.

A boy will inherit your world. All your work will be judged by him. Tomorrow he will take your seat in Congress, own your company, run your town. The future is his, and, through him, the future is yours. Perhaps he deserves a little more of your attention now.—(Anonymous)

The next time you or anyone in your organization hires a boy, make sure you select the right boy for the years ahead. The folks you hire today are your people, your success and accomplishments of tomorrow.★

LIGHTING

(Continued from Page 42)

cent installation, it was discovered that the wrong color of paint, together with collection of dirt on the walls, decreased the ultimate light output 11 per cent, while accumulated dirt and dust on lamps and reflectors caused an additional 27 per cent loss.

The difference between good (65 per cent) and poor (45 per cent) maintenance of incandescent light equipment can be compared to the difference between 300-watt lamps and 500-watt lamps for the same average lighting.

To avoid such unnecessary loss of lighting efficiency it is necessary to clean the lamps and the reflectors regularly, and to pay attention to the conditions of the light-reflecting walls and ceilings as well. Burned out lamps should be replaced promptly. Proper combination of lamp and luminaire is helpful. Never allow lights to flicker.

Bright, contrasting finishes on production machinery result in increased safety and efficiency as well as improved employee morale. Modern finishing practice calls for overall application of light instead of dark gray or green finishes. Bright colors will be used generally in the machinery of the future.

A well designed lighting system will be robbed of its efficiency by dingy interior surfaces. Du Pont color technicians had sections of a work room repainted in high light-reflective colors in order to increase the illumination. The coefficient of light utilization in the work room was only 27 per cent in this case. The ceiling was refinished with light cream paint. This procedure alone increased the coefficient of light utilization to 35 per cent. Furthermore, the side walls of the room were refinished with a neutral green. Eventually dark tables and dark chairs were replaced with blonde furniture, the dark maroon floor was recoated with white floor paint stippled with spruce brown.

By this planned use of all reflecting surfaces, the coefficient of light utili-



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A recent survey indicates that, on the average, it costs from \$1.00 to \$1.25 to send out an ordinary business letter. One sure way to balance your business budget is to eliminate the waste of time and paper involved in retyping. Use Millers Falls EZERASE — the bond paper that erases perfectly with a common pencil eraser. With EZERASE you get neater letters faster, with a real saving of time and money. It's a secretary's dream and a budget-balancer's delight.

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Easy to Use — Dot Etch Tables

You can sit or stand while you work at your new LEEDAL light table. The specially engineered light reflection box is shallow, yet diffuses the light evenly over the entire working area. Light is cool, powerful and non-glaring. A special non-breakable light diffusion material is under the easily replaced, clear plate glass top.

Layout and viewing tables are ideal for registering, line-up, masking, opaquing, negative and plate ruling, copy layout, etc.



LEEDAL efficiency construction lets you sit or stand while you work.

Make Light Work of Negs. WITH **LEEDAL** LIGHT TABLES

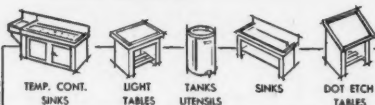
Dot etch tables come with stainless steel splash walls on back and sides. Top is tilted 15°—just the right working angle. Spray pipe is standard.

These and many other features make LEEDAL tables "tops in any company". Ask your graphic arts supplier about the efficient, modern LEEDAL line.



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zation was brought up to 55 per cent, an improvement of more than 100 per cent over the original arrangement. And this was achieved without installing any additional lighting equipment!★

LETTERS

(Continued from Page 14)

you can procure for me a copy of the paper presented by Dr. F. H. Frost on Deep-Etch Platemaking in the issue of April, 1949. This is the most informative article I have yet read on the subject (I have unfortunately lost the copy) and I would very much like to spread the knowledge contained therein, around some of my younger litho friends who are not aware of the importance of the desensitized gum film left on deep-etch plates and go blithely sloshing the plate with citric acid solution "to get it clean" when the plate starts to scum on the press . . . then it must be the paper, or the ink, or the rollers or dampeners.

When I say "cut out the citric and you'll get no scum" they just don't believe me. I look forward to your reply with my fingers crossed.

George M. Grant,
Glasgow, S. H.,
Scotland

We have been searching for the article you mention on deep-etch platemaking by Dr. F. H. Frost.

The closest we could come is an article in the July, 1949 issue by Dr. F. H. Frost, entitled "A New Principle in Lithographic Paper Manufacture," which touches on seven important principles of the offset process and troubles which can arise if these principles are not understood. Could this be the article? (It may be that the talk was delivered in April and not published in our magazine until July.)

No other article is listed for Dr. Frost for 1949, and I find no mention in our index of an article on deep-etch such as you mention.

Photostats are available of this article. If you think this is not the article and have additional clues, we will be happy to search further..

By the way, you may be interested in the following four publications of the Lithographic Technical Foundation, 131 East 39th St., New York. They are highly regarded texts in this country.

No. 504, *Offset Platemaking, Deep-Etch Process.*

No. 804, *How to Make and Run Deep-Etch Plates (Grained Zinc)*

No. 804S, *How to Make Deep-Etch Plates on Ungrained Zinc and Aluminum.*

No. 806, *How to Make and Run Deep-Etch Plates (Grained Aluminum).*

—Editor.

Litho on Foil

Dear Sir:

Will you kindly forward tear sheets, and any other helpful information which you have, in connection with litho on foil as mentioned on Page 56 of the March issue of MODERN LITHOGRAPHY.

V. Connelly,

Frearson's Printing House
Hindmarsh, South Australia

Tear sheets of the article "How to Lithograph on Foil," May, 1958 ML, page 57, have been sent.—Editor.

TECH. BRIEFS

(Continued from Page 58)

trates one of these advances—the development of a practical process for using the xerographic plate itself as a lithographic printing surface. Today, good lithographic plates can be prepared of both line subjects and halftone subjects, and it is no longer necessary to transfer the xerographic image from the xerographic plate to a lithographic printing surface. In this process, xerographic images are prepared and fixed directly on a special type of xerographic plates, and the nonimage areas of the xerographic plates are then made water

receptive. The resulting lithographic plate is placed on a conventional offset lithographic press and prints are prepared by conventional lithographic procedures. Research is continuing, with emphasis on devising technique for halftoning images directly on the xerographic plate in a process camera.

Paper and Ink

*CONTROL OF SHEET MOISTURE. John F. Langmaid, Jr. *9th Annual TAGA Proceedings*, Part A, May 1957, pp. 87-100 (14 pages). Proper moisture level with a minimum of variability is necessary in paper to insure good performance on the press. The proper moisture content varies with the class of paper and the conditions under which it is to be printed. Moisture determinations can be made in a number of ways. The most practical and most widely used method is with the Cambridge Sword Hygrometer. Close calibration and proper use is required of the sword. For use in controlling moisture on the paper machines it is necessary to find the relationship between sword readings and percent moisture in the paper. Control of moisture on the paper machine can be accomplished automatically by different methods. Preventing loss of moisture during cutting and inspection is accomplished by proper humidification of buildings. Higher level of moisture and more uniformity in paper



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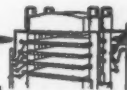
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*MEASUREMENT OF INK MILEAGE. Lars H. Sjødahl. *9th Annual TAGA Proceedings*, Part A, May 1957, pp. 69-73 (5 pages). A laboratory technique has been developed by which the amount of ink required to produce a depth of color on a given paper or board stock can be determined. It requires very little board and ink and considerably less time than production runs. Accuracy appears to be well within 10% of results obtained by analysis of production usage, which are themselves variable. The merits and deficiencies of the method are discussed.★

MAKARIUS

(Continued from Page 50)

find it advisable to put the varnish in the fountain after the press is made ready and the feeder is ready to go.

In running a small-sized sheet on a large press, many pressmen will put in fountain dividers at the edge of the sheet and fill the outer edges of the fountain with heavy litho varnish or compound. This will prevent the varnish from drying on the end of the rollers. After a long shutdown, some kerosene or high-boiling oil can be applied to the rollers. This, together with a blanket wash, permits starting up without any difficulty.

The use of compounds in overprint varnish can be dangerous. Press varnish is made with a carefully balanced solvent and wax content. The addition of too much compound may cause the varnish to penetrate or not dry properly. The safest reducer to use is kerosene.

Most pressrooms find that anti-off-set spray should be used when running overprint varnish. On some jobs, such as boxwraps on cast-coated stock, it may be necessary to run without spray. When this is done, the size of the loads will have to be reduced. This is easily accomplished by racking (putting in blocks and plywood panels every 500 to 2,000 sheets).

Handling the varnished loads at the correct time is most important. If the sheets are wound too early, the varnish will tack up and have a tendency to stick. Winding should be done when the varnish has reached its

point of maximum tack. This is usually about two hours after printing. This, of course, will vary with the stock and film thickness of varnish carried.

Many lithographers run overprint varnish with a normal wet plate. On some covers, labels and box wraps, it is possible to run with the dampeners lifted. This will allow a thicker film of varnish to be carried. In the label and carton field, on long runs, the blanket can be cut to take the varnish off glue laps or stamp cut-outs and still give the ease of running dry-off-set.

An increasing number of large plants are finding definite advantage to running overprint varnish on multicolor presses. Some large-volume carton work is run with the varnish on the fifth unit of a five-color press over four wet colors. Some three-color label jobs also can be run twice through a two-color press with one ink and varnish running together. Very strong semi-gloss inks give the best results in this wet-varnishing operation. Special wet-trap overprint varnishes, with improved press stability, are available for this multicolor varnishing.

Sometimes it also is desirable to run varnish first down on a two-color press, trapping a metallic ink. When varnish is run in this method with offset gold ink second down, a better lift of gold onto the stock is achieved. The gold ink also is bound to the stock more firmly and, of course, has a better brilliance than if it were varnished. There is also an advantage to running silver ink over wet varnish. On a dusted bronze job, there is an advantage in running the overprint varnish before the gold.

In other words, when a job requires gold bronzing plus overprint varnish, the varnishing can be done with other colors on a multicolor press and the bronze applied when the varnish is dry. In this way, none of the gold particles will adhere to the sheets in the non-image area. A non-wax varnish should, of course, be used for this.

Research by inkmakers has resulted in many overprint varnish improvements in the last few years. Con-

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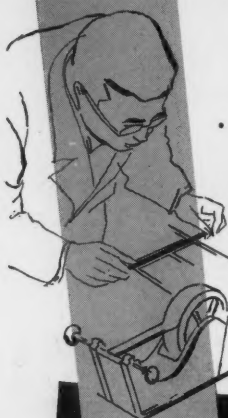
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sultation with your inkmaker on a varnish job may result in an improved result run more efficiently through your pressroom.★

TAGA

(Continued from Page 56)

as the latter methods have to be designed for a much greater accuracy than required by the observer's eye. SOME ASPECTS CONCERNING INK FILM THICKNESS IN COLOR PRINTING, *Sven Ahrenkilde and Richard Norman*

The present investigation has dealt with those problems relating to three-color offset printing. Here the reproduction of grays lies entirely on a proper balance between the dot sizes in the individual steps in the halftone negative, and the ink film thicknesses. Equal-dot-size negatives have however been used as an approximation until a better established relation between dot sizes and ink film thicknesses can be worked out. Ink film thicknesses were adjusted to various levels of maximum printing blackness, and solids of the three colors and their overprints plus a 6-step neutral scale were measured colorimetrically. Because of the selectivity of the neutrals standard viewing conditions were maintained during the selection of the best printed neutrals.

SOME APPLICATIONS OF STATISTICAL QUALITY CONTROL AT WESTERN PRINTING & LITHOGRAPHING COMPANY, POUCHKEPSIE, NEW YORK, *Wm. M. Cranston*

Five different ways of using statistical quality control in industry will be presented. It will be the intent of this paper to show by on-the-job examples how the use of these techniques has helped to improve and/or assure the quality of both incoming material and final product, as well as effect a reduction in production costs.

DESIGN OF EXPERIMENTS IN THE GRAPHIC ARTS, *Harry Hull*

A review is given on why experiments should be designed, and mention is made of a few principles used in the design of experiments. This will then develop into why we should use designed experiments in the

graphic arts. It will be illustrated with two problems which are designed experiments. One of these will illustrate how ranking methods can be used with an analysis of variance to identify causes of variation in the appearance of printed material.

INK ABSORPTION AND EFFECT OF PLASTICIZERS ON RUBBER USED FOR LITHOGRAPHIC BLANKETS, *Charles H. Borchers*

It is known that rubber in contact with ink in the printing process absorbs ink vehicle. Among the factors determining rate and amount of absorption by rubber in contact with ink is the composition of the ink and rubber. This paper describes the techniques developed and used by the Lithographic Technical Foundation to study the rate of ink absorption by rubber of the type used in the manufacture of lithographic blankets. Initially, the ink transfer characteristics of several blankets and inks were determined gravimetrically for two methods of inking. The paper also presents data and discusses the effect on absorption of rubber plasticizers and previously absorbed ink. While the results show fairly wide differences in absorbency due to the properties of the ink, differences due to plasticizers, while significant, are not comparably as great.

THE GLOSS OF OFFSET INK AND ITS RELATIONSHIP TO THE GLOSS AND ABSORPTIVITY OF PAPER, *Charles H. Borchers*

While inks for high gloss must have certain special properties, ink gloss is also often thought of as being closely related to the ability of paper to hold the ink on its surface. Research at the Lithographic Technical Foundation has shown that, in general, poor correlation exists between the gloss of offset ink and the ink absorptivity of paper. An empirically derived equation stating that ink gloss is directly proportional to paper gloss and inversely proportional to the ink absorptivity of paper is presented. The study included coated papers and boards printed with gloss and process inks. The effect on gloss of overprinting dry ink films and the effect of wet trapping on a two-color press are also discussed.★



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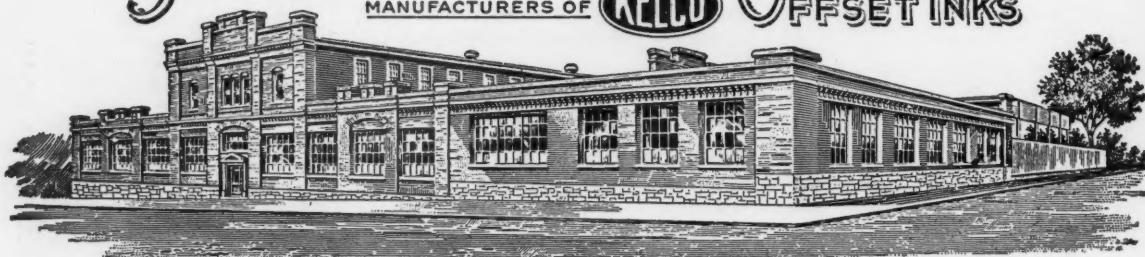
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POPAI Institute To Meet

A critical evaluation of the practice of speculative presentations will be one of the topics at the first national members meeting of the Point-of-Purchase Advertising Institute in Atlantic City, Oct. 15-17.

Meeting at the Hotel Claridge, members also plan to discuss new trends in merchandising and design.

WEB OFFSET

(Continued from Page 46)

out how steady running tends to get improved quality.

Friday morning's session of the Chicago conference was devoted to a panel discussion of the comparative merits of available web-offset equipment, with an evaluation of their merits and drawbacks, as seen by practical users. Suppliers were excluded from this session and remarks of all speakers were "off the record."

Thursday night's dinner meeting included reports on the DRUPA exposition at Dusseldorf, Germany. Reports on new machines and processes noted there were made by Bernard Green, Majestic Press, Philadelphia; Mr. Johnson; and Paul Lyle, Western P. & L. Co., Racine, Wis. Chairman of the program was Hyman Safran, Safran Printing Co., Detroit. During the afternoons of the two-day meeting, everybody took a "busman's holiday" to see the web-offset facilities of Rand McNally & Co., Western Printing & Lithographing Co.

James N. Johnson, Standard Pub. Co., Cincinnati, O., was chosen president for the coming year. Other officers elected are Paul Lyle, Western Printing & Lithographing Co., Racine, Wis., vice president; Fred Best, Canadian Printing & Litho Co., Montreal, treasurer; and James R. Bowler, Courier-Citizen Co., Lowell, Mass., secretary.★

COSTS

(Continued from Page 27)

| | | |
|-----|------------------------------------|---------|
| 6 | At 8% | |
| 2 | At 8½% | 9.30 |
| 2 | At 9% | |
| 20 | At 10% | 18.50 |
| 2 | At 11% | |
| 2 | At 12% | 5.56 |
| 2 | At 12½% | |
| 2 | Price list sales (7½%) | 1.85 |
| 2 | Onestimate 9% and out of town + 2% | 1.85 |
| 2 | 5% on 20% mark up | |
| | 7½% on 25% mark up | 1.85 |
| | 10% on 30% mark up | |
| 2 | General commercial work | |
| | 10% and yearbooks—5% | 1.85 |
| 2 | General commercial work | |
| | 10% and book work—5% | 1.85 |
| 18 | Miscellaneous | 16.69 |
| 108 | | 100.00% |

From these figures it would seem that many firms pay their salesmen a straight 10 percent commission.

Now when these three charts are put together, we find:

1. *The average job marked up on materials used and outside work is 25 per cent.*

2. *Salesmen are paid 10 percent on gross sales.*

This means that on the basis of the figures as submitted—you, the lithographer—are sharing the mark-up equally with the salesman. But supposing you have to sharpen your pencil a bit. Are you still going to pay your salesman that 10 percent? Supposing you mark-up a job only 20 percent and give your salesman his regular 10 percent. This would leave you only 8 percent of the mark-up.

Share Mark-up Equally

Does it make sense that you, the owner of the shop, with a large capital investment, with plenty of labor headaches, and with sales peaks and valleys should share the mark-up equally with your salesman? These factors, of course, are elementary but nevertheless are worthy of mention because this short-changing of the firm happens in so many shops.

There is nothing an employer can do which will yield him more sound management information than that of setting up his own budgeted hourly costs and production standards. Even though the employer sets up budgeted hourly cost rates and production standards, these valuable tools of management become useless, unless they are accepted, used constantly and kept up to date.

The cost man and the estimator should be thoroughly sold on the soundness of both the figures, and the method used in setting up these figures, so that they can make them stand up, both with their salesman, and when applied to customers' specifications.

Cut rate competition in any city is often a result of a lack of cost knowledge and the belief that the sharpening of the pencil and loading up of the plant with business at low prices will yield profits. It won't!★

MASKING

(Continued from Page 53)

amount of black. At times the printing of solid colors plus the black presents a problem of ink piling and poor drying on rotary presses. Consequently, in removing a certain amount of yellow etc., from the black area we are removing color from beneath the black; hence the name undercolor removal mask. These masks can be made on various types of film.

Masking percentage: refers to the percentage of the original density range. For example, if the original transparency has a DR of 2.0, and we want to use a 30 per cent correction mask, we can find the density range of this mask by multiplying the DR of the original by mask percentage: e.g. $2.0 \times .30$ equals .60 for the density range of the mask. In Article 4, we will illustrate a simple chart for calculating this mask.

One of the important reasons for masking is to compensate for the deficiencies of ink. The Lithographic Technical Foundation recently published a book on this entitled *The LTF Color Chart*. It points out some extremely interesting information.

For example, if we were to take density readings with a reflection densitometer using a set of the separation filters on a set of process color inks we would get the results shown in Figure 10. These readings are theoretical because inks do not exist in this degree of purity. The yellow ink should absorb blue light and reflect an equal amount of magenta and cyan. The other inks reflect different colors as illustrated. In Figure 11 we see the actual results we got from a standard set of process inks. Note the differences between these and our theoretical inks. The yellow ink, instead of reflecting all green, absorbs a certain amount and consequently will go slightly toward the orange side.

Now that we know the shortcomings of ink, to what use can we put this information? By comparing the reflection densities of these various colors we can accurately figure out the mask percentage needed for color correction of the various separations. For those who are interested in this, it will probably be best to purchase the LTF book and read through for complete details. In some of the masking procedures described we will use this particular system for mask calculation and go into the

steps necessary for figuring the mask percentages from the density readings of the inks we have used on the original color chart.

In the next article, we will continue on masking, covering highlight masking on both ortho and pan film, and basic negative masks for transparencies and reflection copy.★

For readers who want to make up a color chart as described in the first article in this series (May ML, page 29) following is a list of patches of standard offset inks to be pasted in each square:

Row No. 1. 1. Primrose yellow, 2. Lemon yellow lake, 3. Lemon yellow, 4. Indian yellow lake, 5. Deep yellow, 6. Light sunset orange, 7. Med. sunset orange, 8. Deep orange.

Row No. 2. 1. Light red, 2. Tulip red, 3. Toluene red, 4. Strong geranium red, 5. Brilliant red, 6. Brilliant green, 7. Light millori green, 8. Cyan green.

Row No. 3. 1. Red shade peacock blue, 2. Greenshade shade cyan blue, 3. Redshade shade cyan blue, 4. Royal blue, 5. Azure blue, 6. Med. millori green, 7. Deep green, 8. Bronze green blue shade.

Row No. 4. 1. Deep magenta, 2. Purple, 3. Violet, 4. Deep purple, 5. Tan, 6. Russet brown, 7. Olive brown, 8. Red photo brown.

Row No. 5. 1. Light gray, 2. 18% reflective gray, 3. Standard black, 4. Gloss black, 5. Offset paper, 6. Coated paper, 7. Warren Lustercoat, 8. Kromekote.

Row No. 6. 1. Cream, 2. Ivory, 3. Gray, 4. Warm gray, 5. Rose pink, 6. Beige, 7. Cocoa brown, 8. Pale yellow.

Row No. 7. 1. Chartreuse, 2. Soft green, 3. Coral rose, 4. Cameo brown, 5. Sky blue, 6. Turquoise, 7. Sea green, 8. Belgewood green.

BALANCED PROCESS INKS

(Continued from Page 48)

Series I inks, while the Series II inks require a 42-43 per cent mask, and the Series III inks require a 48-49 per cent mask.

The Series I set of balanced inks appears to be the best. They are the cleanest and most transparent, and make the cleanest two-color overprint colors. They correct with the weakest mask strength, which is good. But the magenta in particular is the most expensive. So in this field, as in many others, if you want the best quality you are going to have to pay a little more for it. However, even the Series III inks are fairly good colors, and will produce a cleaner process job than many sets of process inks which are in common use today.

Color bars of all three series of balanced offset process inks are now available for the use of cameramen. If it is planned to print a particular job with, say, the Series II set of balanced inks, then the Series II color bar should be photographed along with the colored copy when the color separation negatives are made. Then masks are made to correct the errors in the inks which show up in the

color separation negatives. And since the inks are "balanced," it should be possible to correct these errors with single stage masking. Then the screened positives are made, and any necessary hand work is done. Next the litho plates are made, and the job is printed with the Series II set of inks. Thus the process is guided from the very beginning by the inks which ultimately will be used to print the job.

The idea of balanced offset process inks is now out of the experimental stage. These inks have been in use for almost a year in a number of lithographic plants and their use is on the increase.

In conclusion, this work on balanced inks is a systematic attempt to solve some of the problems of color correction with a proper selection of the process printing inks. It has not eliminated hand work, but it has simplified the photographic masking and reduced the amount of hand work needed. And the final printed jobs are outstanding because of the cleanliness of the tones. These inks may not be the final answer but they certainly are a step in the right direction. And finally, this work would never have been brought to a successful conclusion without the valuable help and advice of Frank Preucil of the Lithographic Technical Foundation.★

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TALE ENDS

A CHANGE in the leadership of the Amalgamated Lithographers of America is in the offing. That was the word ML got late last month from the traditional "usually reliable sources." The story, as we get it, is that George Canary, president of ALA, has submitted his resignation and that a successor soon will be chosen in a national election.

It is understood that, for personal seasons, Mr. Canary does not care to leave his Chicago home for New York, where the national headquarters is located, and hence will step down. It is further reported that he will continue to serve as head of the lithographer's union until such time as a successor is named, presumably by the end of the summer.

ML checked out the rumor with Mr. Canary himself at his Chicago office, but his only comment was a very firm "no comment."

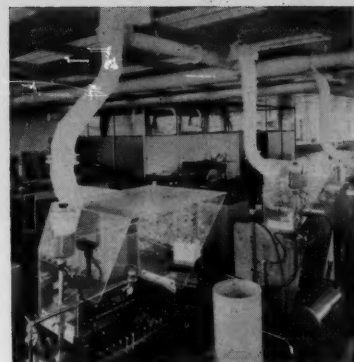
There seems to be sort of psychological counter-balance in every lithographer's outlook on business. What we mean is that when times are good and business obviously is booming, the typical lithographer will admit only that his business is fair and that he has severe problems . . . his stripper has a hangnail, the overtime is running up his electric bill, there's no room to store all the ink for the four-color jobs . . . etc.

But when business takes a dip, and the major industries are screaming about profits disappearing down the drain, we hear an entirely different story from our lithographer friend. When we offer him a sympathetic word he seems a little offended and quick to assure us that while things looked a little bad a few months ago, business has been just fine, thank you, lately, and the future looks bright.

Can it be that our industry runs

counter to all the others, or is someone pulling our leg? These lithographers are inscrutable fellows, indeed.

Our Cleveland correspondent, Ralph Bing, reports a harrowing experience in his area. Seems that Bill Peterson, lithographer at American Electrotape Co., barely missed death recently when his car got stuck on a railroad crossing in Lakewood, O. Bill attempted to rock the car out of its position, until, seeing a freight coming, his wife convinced him it was useless. He and his wife got out and ran back just in time to see their Buick hardtop knocked 35 feet down the track.



That weird looking view above isn't a glimpse of the litho shop of the future. It's an installation of plexiglass hoods over offset presses in print shop at Connecticut General Life Insurance Co., Hartford. The hoods are used to eliminate the messy clean-up problem caused by fine starch dust, and to help guard against hickies, etc.

The transparent hoods provide light and visibility in the press area. They are manufactured by the American Air Filter Co., Louisville.

Time was—not so long ago—that the National Association of Litho Clubs barely could afford the cost of a bottle of ink to keep the treasurer's report. Now, we are happy to report the NALC has amassed a treasury of \$5,780. Things are looking up!





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